

*The*  
**BULLETIN**  
*of the*  
**MASSACHUSETTS**  
**AUDUBON SOCIETY**



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# MASSACHUSETTS AUDUBON SOCIETY

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# BULLETIN

OF THE

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Cover Illustration, BLACK-CROWNED NIGHT HERON, Allan D. Cruickshank

## The State-wide Bird Walks

BY RUTH P. EMERY

The State-wide Bird Walks conducted on May 7 were favored with good weather this year, and the results were gratifying. Seventy lists have been received as the *Bulletin* goes to press, and 184 species have been recorded. Some of the walks started as early as 5:30 A.M., when the temperature was in the forties, and girl scouts and boy scouts, brownies, members of junior garden clubs, young children and adults, all participated. In Dartmouth Mr. and Mrs. Gordon Johnson led a group of 40, and in Weston Mrs. C. L. Smith had 22 children and 18 adults. Some groups were so enthusiastic they asked to have the walks repeated the following week. Because of the small group in Chestnut Hill on May 7 Irving C. Keene took 88 Brookline High School biology students on a 5:30 A.M. walk in the Hammond Pond State Reservation on May 10. They enjoyed it so much that they would like to go again. In Martha's Vineyard all the towns on the island were represented in the group led by Mrs. Lucinda P. Vincent in Chilmark.

In Hubbardston two occupied nests of the Great Blue Heron were found, and an American Egret was seen in Rowley. In East Douglas a Least Bittern walked out between grass clumps and posed for ten or fifteen minutes. The Yellow-crowned Night Heron was back again in Green Harbor. Sixteen species of waterfowl were listed, and a female Wood Duck was seen incubating in Weston. In Ipswich a Turkey Vulture soared over the group. King, Virginia, and Sora Rails, and a Florida Gallinule were heard in Lynnfield, also at Lynnfield, sixteen species of shore birds included young Killdeer. Iceland, Kumlien's, Black-headed, and Laughing Gulls were seen. A few Common Terns were reported. A Yellow-billed Cuckoo was observed in Rutland, and a Black-billed in Ipswich. Five young Barn Owls were noted in Chilmark, and a Barred Owl was found nesting in Middleboro. A few Ruby-throated Hummingbirds were seen. Pileated Woodpeckers were found nesting in Tyngsboro and Hubbardston. Kingbirds and Crested and Least Flycatchers arrived, and all the swallows were reported. In Weston two pairs of Rough-winged Swallows had excavated holes and appeared to be carrying in nesting material.

Wood Thrushes were seen and heard by many for the first time this year, and four kinds of vireos were observed. Twenty-two species of warblers included an early Cape May Warbler. Evening Grosbeaks lingered at many places to be included on the day's list, and Cardinals were found in Middleboro and Pittsfield. In Edgartown a Summer Tanager was seen, and a Pine Grosbeak was checked in Chelmsford.

A Red Squirrel was seen in Rockport, which might be a first record for the town. A Short-tailed Shrew ran quickly over the ground in front of the Weston group. The Lexington trip, led by Felix Cutler, ended at the home of Mr. and Mrs. Parker Reed, where members of the group were hospitably treated to milk, coffee, and doughnuts and then watched Mr. and Mrs. Reed and Dr. Charles Blake, of Lincoln, band Purple Finches and Evening Grosbeaks, a most interesting experience.

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### News of Bird Clubs

At the regular meeting of the HARTFORD BIRD STUDY CLUB on June 14, there will be a Report of the Spring Census, in charge of the Field Committee. Field trips for the month include a trip to Keney Cove, Glastonbury, on June 4, with Mrs. Thomas Rhines as guide, and a week end at Mt. Greylock, June 18-19. On June 11 the club will attend an all-day meeting of the Connecticut Federation of Bird and Nature Clubs, to be held at Chatfield Hollow, Cockaponset State Park, Killingworth.



## The Bylot Island Expedition

BY WILLIAM H. AND MARY B. DRURY

*Photographs by the authors*



View from the ice on Eclipse Sound looking northeast toward Mt. Thule. Camp site is on the shore between the dog sled and the two figures untangling the traces. Both the mountains of the interior and the rolling plateau topography of the southwest corner of the island are shown. An iceberg caught in the freeze-up of last fall is shown behind the sled.

The organization and the arrangements for our trip were made by Rosario Mazzeo, who, unhappily, was prevented from going along by his duties in the Boston Symphony Orchestra. Seldom has a trip been sent off more admirably prepared. It was sponsored by the Arctic Institute of North America and the New York Zoological Garden. Our party of eight included Josselyn Van Tyne, of Michigan; Katharine and Axel Rosin, of New York; and Benjamin Ferris, Richard Miller, Edward Ames, and ourselves, all from Harvard.

We flew from Boston on an overcast and muggy June 9 afternoon and traveled all that night, transferring to a chartered plane in Ottawa. This plane, a DC-3, flew us to Churchill, Manitoba, which is right at tree line on the southwest shore of Hudson Bay. There we spent the night, then flew across the sea ice to Coral Harbor, Southampton Island. The ice was packed along the shore at Churchill; further out it showed cracks of tens of miles long, and near the middle of Hudson Bay it was broken up and floated free in the cold deep-blue water in circular or rectangular pans.

North of Southampton Island the ice was unbroken except for some open water near the large Eskimo settlement at Igloolik, southwest of Baffin Island.

Clouds covered Eclipse Sound. The gray sky, snowy land, and snowy sea ice made an unworldly atmosphere of no dimensions. The only measure of distance was two rows of oil drums to mark a patch of smooth ice, and there

we landed, oddly enough, on wheels. The corn snow was like fine gravel to the plane's wheels.

After this flight of nearly two thousand miles from Boston, suddenly we were again in an overcast humid atmosphere, but in another world. Ours was the seventh plane ever to land at Pond Inlet, and all the Eskimos from a hundred miles around should have been there to meet us. Obviously, however, no one would be expected to fly in when the clouds were over the islands, and consequently no one was on the ice waiting for us. But in a few minutes signs of life showed on the beach. Dog sleds (komatiks) were hitched and everyone from the settlement poured out to greet us.

You read frequently of the gentle, friendly Eskimos, but it is fiction to you until you suddenly are there with them, and then it is true. They were really delighted to see us.

But Pond Inlet is a special place. The whalers came to Button Point and Pond Inlet in the 1700's and disrupted the old Eskimo way of life. When they went away again, Pond Inlet was alone to heal its wounds and adjust to the changes. The police and the Hudson's Bay Company, everywhere a good influence in the North, were there to look out for their welfare and help the change. Now the Eskimos have taken over many of the material contributions of the white man, such as needles, knives, rifles, rope, rubber boots, sewing machines, tents, and Hudson Bay duffle for parkas (*kooliktoowyah*). They have taken what is good and abandoned what is not good. Planks 2 x 8 x 25 feet are used for komatik runners, but the design is the same as it always was. The runners in the winter are shod with whalebone, but in the spring with steel. Christianity came in and disrupted their own religion, the core of their life, but now they are nearly all Christians. In that area where, for survival, no hunting opportunity should be missed, we sometimes questioned the advantage of letting good hunting pass just because it was Sunday.

The most important recent force in the lives of these people is two young men, Pete Murdock, the Hudson's Bay Factor, and Doug Moody, Constable of the Mounted Police. They are there to promote the welfare of the Eskimos. They have met the problems on an ordinary, unromantic level and solved them successfully. It will take many sensible people like these to temper the constant adjustments there certainly will be in the future.

When we arrived at Pond Inlet we met Idlouk, whom Mr. Mazzeo, on a quick trip there in May, had asked to help us during our stay. We all felt that this was one of the most fortunate of Mr. Mazzeo's arrangements.

The sun doesn't set on Eclipse Sound from late April to late August. When it is cloudy there is barely any change in the amount of light during the twenty-four hours, and therefore life goes on with an irresponsible disregard for those autocrats of civilization, clocks and calendars. Sometimes people stay awake for eighteen hours, sometimes for thirty-six hours, and then they sleep as long as they want or need. They usually travel when the sun is in the North, because it is easier on the dogs' feet.

June 11, after several hours of sleep, and about as many hours for breakfast, we started to load the komatiks, but not until after a morning's walk showed singing Snow Buntings and Lapland Longspurs on the buildings of the post, a Red Phalarope pair flying over, and half a dozen Greater Snow Geese.

The plan was for a fast sled to go ahead and put up camp on Bylot Island



Greater Snow Geese feeding on a sedgey area behind camp.

while the rest followed more slowly. In this way those with the lead sled could look over the various possible camp sites more carefully. But everyone was so good-natured that no one told us we had grossly overloaded the fast sled. This enabled the dogs of the later sleds, also inspired by having a sled ahead, to catch up, and the seven sleds straggled along together across the eighteen miles of Eclipse Sound toward the mouth of the Aktineq.

After about two hours' travel, we started to get cold in spite of the bearskins which we sat on. Then Idlouk saw a seal on the ice (*ootuk*) and broke out his Remington .222 with a telescopic sight. With this and a white screen supported by crossed sticks, he stalked the seal, moving up when the seal's head was down, crouching behind the screen when the seal looked up and around, a striking example of the old and the new. He shot, and the seal never moved. The seal has to be shot between the eye and ear so that he cannot get back into his hold (*ahgloo*). All the sleds then moved up, and we stopped for tea and learned more about travel in this region. A box was kept foremost on the komatik in which were stove, tea, crackers, tools, and so on, separate from the load; in this way the main load was not disturbed for the occasional tea stop. While tea was being prepared, games were played, energetic games of wrestling, and push-up like races, to warm everyone. Others competed to break a matchstick with their 25-30-foot whips or engaged in the coldest pastime we hope to encounter, that of untangling dog traces. Each dog has a 20-30-foot rawhide sealskin thong which connects him to the main trace of the komatik. The dogs are hitched in a fan, and as they travel these thongs braid together, drag on the ice, and freeze. They must be untangled by combing them apart with bare fingers.

At 9:30 p.m., after a five-hour trip, we reached Bylot Island and the mouth of the Aktineq. The Aktineq glacier flows south out of the central snowfield of Bylot Island. Bylot is about 115 miles long from northwest to southeast, and 75 miles across. A high ridge of mountains forms the central highlands and is mantled with snow and ice. About a hundred peaks rise up through the icefield. To the southwest a gently sloping plateau extends twenty-five miles, sharply cut into by streams that run nearly parallel to each other across the lowland. The island is between two northern peninsulas of Baffin Island and lies about 250 miles southwest of Thule, Greenland. Camp was made at 72°48' North, 78°54' West, about 1800 miles straight north of Toronto.

We pitched our tents on a beach level where the wind had blown the snow away. We knew what that meant, but there was no shelter to be had, and the wind became our constant attendant.

Our first evening on the island made an impression I think we shall never forget. The evening sun shone down the slope of the hills covering the snow with blue shadows. Camp was where the old beach met the steep edge of the plateau, which rises just behind to 150 to 200 feet. Old beach levels mark off these slopes, and they were especially conspicuous then because the snow had been blown off them. Horned Larks hung singing in the air over the barren wind-swept slopes, and Baird's Sandpipers hovered trilling over the beaches. A few Snow Buntings sang their rich Tree-Sparrowlike song, and one or two Lapland Longspurs sang, but both these buntings were still mostly in flocks and had not yet taken up territories and started to sing in earnest. Then, while we had supper of seal liver and rice, several flocks of ten to twenty Greater Snow Geese flew over us from the west toward the grassy places appearing through the melting snow on the river plains and lowlands east of the river. Old-squaw arrived the same week that we did and settled in the water that was collected behind the outer beach bar in front of camp. A flock of about sixteen pairs gathered and carried on at a great rate, displaying and gabbling almost constantly. Their bobbing heads, their games of water polo, and their cries of *ah ang-ah* made them as constant a presence at camp as the wind.

We were there about a week while it still seemed winter, but the snow-free patches grew larger and larger, exposing areas of *Cassiope* (arctic heather) in the first hollows that appeared. Then came a week of warm weather from June 24 to June 28, and nearly all the snow disappeared from the uplands and slopes. The land was a sheet of flowing water and wherever you walked wet mud extended down to the top of the frozen ground. Here and there you sank to a depth of twelve or eighteen inches. This was the time of year when the soil creeps and sags down slopes, forming lobes and terraces.

Now Red-throated Loons were flying over, calling their crescendo of grunts, and the Longspurs were singing like Bobolinks everywhere and staking out their territories. Flocks of Red Phalaropes and Golden Plovers had arrived before the thaw and loose groups of ten to fifteen Long-tailed Jaegers flew steadily north over camp in their businesslike way. Black-bellied Plovers were suddenly there, but no flocks were seen. The White-rumped Sandpipers appeared one afternoon at the start of the main thaw and began their vigorous displays and song.

Within a week all of these birds had nests, and we were spending most of every day watching, hoping they would go to their nests so that we could include them in our studies of incubation. Our usual system was to walk just anywhere over the tundra, preferably on some part of a hill where we had not walked before. Then suddenly a bird would cry in alarm near us; and we would back up fifty yards and sit down and wait until finally it returned to its nest. Eventually we found sixty-nine nests that we revisited and watched for some period. Of course we soon learned just the sort of place where each species nested. Snow Geese were on exposed ridges, but foxes soon found most of their nests. A pair of Red-throated Loons nested on a mossy island in a pond near camp and the eggs were laid in a waterlogged clump of moss. Baird's Sandpipers nested on exposed beach ridges where the wind blew away the snow and nearly all the vegetation. White-rumped Sandpipers nested on moss hummocks in sedgy areas; Golden and Black-bellied Plovers nested on



**Baird's Sandpiper incubating. The sparse vegetation is typical of their nesting sites.**

rather exposed ridges. The Golden Plovers chose places surrounded with mats of willow and heather, and the Black-bellies nested where clumps of lichens matched their eggs and little else but lichens grew.

We found Black-bellies and Golden Plovers to be very similar or identical in display, cries, display flight, distraction displays, nest sites, eggs, color of plumage, and soft parts of young; in fact, in three cases we found active struggle between the two, where Golden Plovers in great alarm were driving a Black-belly from their nesting site. This seems odd behavior for two species placed in different genera in the A.O.U. check-list. We did not find interspecific struggles in any other species.

Horned Larks nested on the steep edges of wind-swept ridges, making their nests of stones and caked dirt. Their nests were so hard to find that we had trouble locating them again even after we had marked them with flower-pot labels. Snow Buntings nested in old lemming holes on sandy ridges and Longspurs under those clumps of arctic heather which appeared through the snow before June 25.

About the first of July the Snow Geese thinned out, then disappeared while they molted their flight feathers. Josselyn Van Tyne was able to collect two specimens in full molt. At this same time the Oldsquaws started to incubate their eggs, and they continued for the next four weeks. Benjamin Ferris, Mary Drury, and Dr. Van Tyne made a daily check of all the nests we had found, to discover when the young pipped, hatched, and left the nest. It took nearly four hours of steady walking to zigzag from nest to nest in our study area of about a square mile.

On the gravel bars at the mouth of the Aktineq, Arctic Terns started to nest

the first week of July. By then the sea ice had cracked, making leads large enough for them to fish. Eventually we found nineteen nests, although no one ever saw more than thirty terns together. On the wind-swept beaches east of the Aktineq and on similar beaches at the mouths of the rivers, European Ringed Plovers nested.

When we first arrived the willow mats showed their first pussies, and dense clumps of the pink flowers of opposite-leaved saxifrage showed in sheltered places. Suddenly, by the first of July, sunny slopes which had recently been snow-covered became a mass of bloom with white arctic heather, sandwort and chickweed, purple louseworts, lavender *Astragalus*, yellow poppies, buttercups, *Oxytropis*, cinquefoil, and avens. White, yellow, and purple mustards, purple fireweed and louseworts, white fleabane and daisies, yellow marguerites and dandelions splashed color on the cones of sand at the bases of the bluffs. Although we were a thousand miles north of trees, there were plenty of flowers in the ankle-high vegetation.

From June 20 to June 28, while we had stayed at camp with Dr. Van Tyne finding nests and studying the vegetation and frost features, the rest of the party had gone to the southeast corner of the island, Button Point. The Eskimos gather there at this time of year to hunt seals, Walrus, and Narwhal at the floe edge. Maybe this is a holdover from the days when whalers used to congregate off Button Point in the spring. On this trip they visited the murre cliffs near the point where thousands of Bruennich's Murres and Kittiwakes nest. Glaucous Gulls and Ravens nest high on the cliffs preying on the others. Off the edge of the floe ice they saw Northern and King Eiders, Fulmars, and Dovekies, and one Canada Goose flew over.

Back around camp, stragglers came through or were seen on our trips alongshore. They included Arctic Loons, five White-bellied Brant, one Blue Goose, several Parasitic Jaegers, European Turnstone, Sanderling, Pectoral Sandpiper, and Snowy Owl.

Other studies carried out by members of the expedition included collection of plants and birds, work on the peculiar frost features in the ground caused by the changes which disturb the soil during thawing and freezing; a study of the health records and vital statistics of the Eskimos in the area; work on mammals and insects; collection of weather data; a mountaineering trip, and, of course, extensive photography.

We were on Bylot the summer following a crash in the lemming population. Almost no lemmings were seen all summer, and the Snowy Owls, Long-tailed Jaegers, Arctic Foxes, and weasels had to look elsewhere for food. The Snowy Owls had left. We saw one and found two dead, but flocks of jaegers came in and took up territories, probably an unusually high number because the last breeding season had been during a lemming peak. But the natural controls of populations took its effect. Insufficient food kept the jaegers scouring the countryside. They destroyed our Old-squaw nests, and we saw them take young Longspurs. Weasels and Arctic Fox depend on the same staple, lemmings, so they pressed on nesting birds. Arctic Fox destroyed most of the Snow Goose nests we found. Perhaps pressure from natural predators, because of the lemming crash, is responsible, together with the late cold summer in the Arctic this year, for the serious lowering of numbers of Greater Snow Geese the Fish and Wildlife Service has reported this winter. We were lucky to be present during an important period for the observation of natural control of numbers.





Leah, Mary, Susanna, and Kidla watching a female White-rumped Sandpiper return to its nest. This illustrates the "difficulties" of bird study in the Arctic.

Our studies of birds and flowers and frost cracks were carried on right up until July 29, when our final check of nests showed that the last nest of Black-bellied Plovers had hatched and the Long-tailed Jaegers had broken up the remaining Old-squaw nest.

The seaplane chartered from Mont Laurier arrived on the evening of July 29, and we broke camp and loaded the plane. But bad weather closed in and postponed our leaving until the next morning. We flew ground-control below the clouds through the mountains at the head of Tay Sound, then southeast past the Barnes Icecap and Nettling Lake to Frobisher Bay, where we were hospitably received, although the commanding officer scarcely expected two women to appear out of the north. Weather held us up again, and we left for Fort Chimo the next afternoon. After a night there, we were flown on to the headquarters of Mont Laurier at Roberval, Quebec, on one of their regular flights. At Roberval we transferred to a train for our return to Montreal, where we separated for Boston, New York, and Ann Arbor.

In the course of our seven weeks' stay, the one feature which emerges in the minds of all the party was the company of Idlouk, his wife Kidla, and their seven children. With his help, that of Joe Pamipakootchah, Pete Murdock, and Leah and Panilook (two of Idlouk's children), we learned their names for the local birds. From Idlouk and Kidla we found the names of the plants and what use is made of them. We discovered innumerable things about their way of life and about a family of nine living happily in a 9 x 12 tent. Leah and Panilook knew the names for birds their parents didn't know, and they helped find nests. Leah had spent a year in Ottawa and Idlouk had worked with other visitors, so they both understood nearly everything we said and could speak a little English. Rebecca, the oldest daughter, had been in England taking care of the children of a sick missionary. She not only understood all we said but could translate and transliterate her Eskimo words into English script. The whole family's enthusiasm for our work and their charming companionship were a constant pleasure to us and will remain the highlight of the trip.

## The Story of Butch

BY MARTHA J. McDERMOTT

One beautiful day early in June a Rose-breasted Grosbeak fledgling was brought into our home by our son Kenneth. He had no tail feathers and his beak was still soft.

One of the boys in the sixth grade found the Grosbeak in the schoolyard and brought it to the classroom. After the boys and girls had observed its actions during the morning, the teacher asked Ken to take it home and see if he could raise it.

It was immediately christened "Butch," assuming it was a male, and what an interesting time we had! Butch was a great pet from the start. There were feedings at least every two hours with a medicine dropper, or with the tip of a finger. We always knew when to feed him, for he would let us know when he was hungry by his sharp chirp. We put him in an abandoned cage and gave him improvised perches. Later we acquired a canary cage for him. He was fed regularly with a formula similar to that of a human infant. At first he had cereal cooked in milk, and egg yolk. Then he had some canary biscuit soaked in milk (the kind given to young canaries), and later he had quite a varied diet, including canary seed, sunflower seed, berries, fruit, string beans, peas, lettuce, watermelon, grapes, raw beef, walnuts and peanuts (chopped), weed seeds, maple seeds, insects (mostly Japanese beetles, as they were the most plentiful and easiest caught), and turtle feed composed of dried insects and ant eggs. A generous supply of sand was kept in his cage.

Butch had the run of the porch a large share of the day. At night he was put in the cage to sleep. When we came out on the porch he would start in with his song *cheri, cheri, cheri*. When he was let out of the cage, how he would fly back and forth in rapid motion for a few minutes! Then he would settle down to eat whatever tidbit he had been given. His eating was accompanied by a *chirp* which sounded to us as though he might be saying "Good, Good."

Each time the porch door opened he would fly straight to us and land on a shoulder. The buttons on our clothes, buckles, and shoelaces were very interesting to him, and he would always pick at them. He would even try to pull my hair and take out bobby pins.

At first he had very drab colors, but they changed gradually until he had pink feathers under his wings, his back was speckled black and white, and his breast was buff and gray with tiny black stripes, except for the rosy patch on his breast.

What a delightful time he had among my flowers! One day he was on my geraniums, picking the red petals off one by one and dropping them on the floor like a mischievous child. Then he had a swing on the stem of the blossom.

He would look through the dining room window from the porch, apparently wanting to join the family. One day our white cat sat on the inside window sill and watched him. The two looked at each other until finally the cat could stand it no longer and slapped at Butch with one white paw. Even then Butch did not seem to be afraid.

We miss our Grosbeak. One fine day we took him to Arcadia Wildlife Sanctuary in Easthampton, where he was banded by Director Mason and sent forth "on a wing and a prayer" to join other birds making the trip south.

## The Quivett Neck Heronry

By E. B. CHURCH, B. M. SHAUB, AND M. S. SHAUB\*

*Illustrations by B. M. Shaub*

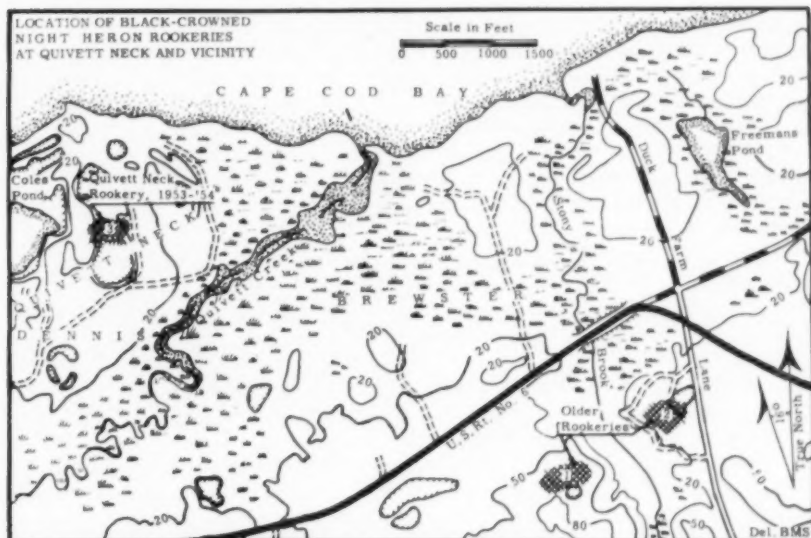


Fig. 1. Map showing location of Quivett Neck heronry and older rookeries in the map area.

There is little doubt that the Black-crowned Night Heron has been a long-time summer resident on Cape Cod. It probably nested in the area before the arrival of the Pilgrims and was undoubtedly attractive to the Indians as an edible fowl and consequently persecuted in its rookeries. After the settlement of the Cape by Europeans, the birds established relatively large heronries at many sites over rather wide areas. Bent says that on the Bay side of Sandy Neck in Barnstable the heronries date back at least a century, and during this time the birds were shot out several times and as a result periodically moved their nesting sites.

The Brewster-Dennis region has also been a favorite section of the Cape for heronries over many years. Although the birds return to the same general area to raise their young, the rookery sites are changed from time to time, the intervals being of the duration of from six to ten years, depending, to some extent, upon the degree to which the birds have been persecuted. In some instances the sites have been used for longer periods. After the trees have been used for some time, they show considerable wear, especially when the nests are close together and the number of birds using the top of a tree for perching is excessive. Through hard usage and deposit of large amounts of "whitewash," an occasional tree may become defoliated by the end of the

\*Contribution No. 15 from the Shaub Ornithological Research Station, 159 Elm Street, Northampton, Massachusetts.

breeding season, and if similar treatments are too frequent the tree may be severely injured or even killed.

The trees in the rookeries visited consist largely of pitch pine which are low and scraggly, seldom reaching a height of thirty feet. Scrub oak of about the same height is also a member of the woodlands, but it is seldom used for nesting, the pine being the preferred tree for nests. It is seldom that any of the trees assume proportions that would yield usable lumber, hence the value of the forest products is principally in the firewood, which is of little economic value. Once the birds relinquish an area it soon recuperates and thrives from the relatively heavy fertilization from the guano excreted by the birds; hence, it appears that it would be difficult to claim that the occupancy of a wooded tract by the herons causes any permanent over-all injury to the trees. On the other hand, the added fertilization may stimulate tree growth to the extent that it may completely overcome the wear and other damages from perching, except in the most severe cases.

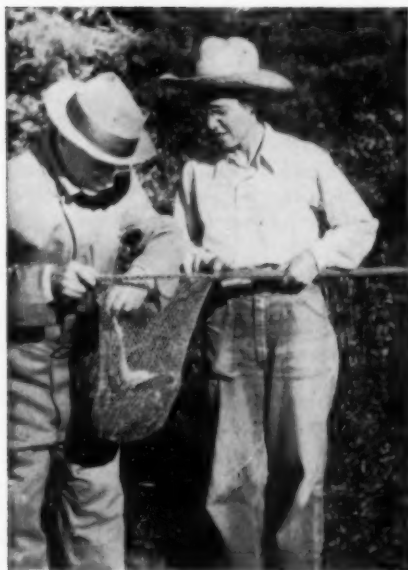
The adult birds in the heronry are reported to be active throughout the night, going to and from their fishing places; for it requires a large quantity of food to bring the numerous young to maturity. It is not unusual to find the herons along the streams searching for food during the day. Their food consists chiefly of fish, frogs, tadpoles, squids, crayfish, and shrimps which are available along the streams, in the tidal marshes and flats, and along the beaches at low tide.

There appear to have been many heronry sites on the Cape, and a review of their locations would be too exhaustive to discuss here. Special attention is given to the one now occupied on Quivett Neck in the town of Dennis, Figure 1. The sites of two older rookeries in the vicinity are also shown in this same figure.

The birds are indeed a noisy lot, for even during the day their oft-repeated *quock* uttered in a loud, harsh voice, is never pleasant to hear, and it becomes tiresome and very monotonous. During the night, the period of their most intense activity, the tempo is greatly increased.

Our search on July 23 for an active rookery led us to the one on Quivett Neck along the Bay. It is located near the large marsh areas in the town of Brewster and those along Quivett Creek and Stony Brook. Here the herons have a more or less ideal nesting site in the proximity of rich food areas. The nearest residence is nearly a quarter of a mile to the west, where the occupants are not disturbed by the noise and activity of the herons.

As we approached the nesting site during midafternoon, the rookery was relatively quiet with only a few of the adults flying between it and the Bay. Very little activity or noise was evident until one of the party entered the rookery, and then the adults near by rose into the air with a loud *quock, quock, quock*. The young hastily scrambled up through the trees, seeking the highest branches from which to survey the situation and to get as far from the enemy as possible. The more mature young were able to make short flights from one treetop to another, while often losing elevation in the attempt. Those not so far advanced and willing to undertake the aerial route would sometimes fall a considerable distance before catching onto the lower branches. An occasional bird was unfortunate enough to journey to the ground and would then run with considerable speed. A grounded bird can quickly climb back into the lower undergrowth and in most cases would be able eventually to



**Fig. 2.** Mr. Church and Mrs. Shaub removing a young heron from a crab net.

adults, and the following spring they will assume the full adult plumage. The eye of the juvenal is large and the iris is a grayish greenish yellow, while that of the adult is a scarlet or bright red.

The nests are loosely constructed with medium-coarse sticks. They are lodged in the crotches of the trees and range in size from 14 inches to 2 feet. In general, they are very crude affairs, and it is surprising that many are not dislodged by the wind before a brood can be reared to the stage where the young can perch on the limbs without the aid of the nests. The nests are lined with finer twigs and roots. Even the cavities of the nests when finished are crude and rough. The height of the nests varied from about 8 feet above the ground to about 30 or 35 feet in the tallest trees. The average was around 15 to 20 feet.

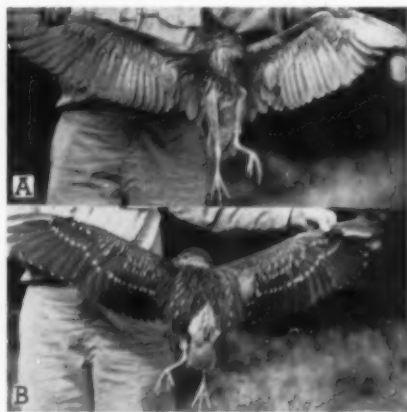
As one enters the heronry and approaches a tree in which several young are perched, one will soon become aware of numerous thuds caused by clumps of partly digested fish disgorged by the young birds. There appears to be no attempt to cover the intruder with their offering, for the thuds usually occur ten to twenty-five feet in advance of him. Our first visit to the rookery

climb back into the treetops, especially when the birds are as well grown as they were at the time of our visit. After several attempts, some of the larger juvenals were isolated in one of the lower trees, and one was forced to the ground, where it was captured in a crab net, Figure 2, and later photographed. The bird shown in Figure 3(A) is sufficiently feathered and is almost ready to make sustained flights of short duration.

In the upper illustration, Figure 3(A), the bird is strongly streaked except for the under parts of the flight feathers, while in the lower illustration, Figure 3(B), the head, back, and rump of the same bird are also streaked. The flight feathers and the upper wing coverts are tipped with white.

During the next two and a half years the plumage will change with each molt until the juvenals have the same winter plumage as the

adults, and the following spring they will assume the full adult plumage. The eye of the juvenal is large and the iris is a grayish greenish yellow, while that of the adult is a scarlet or bright red.



**Fig. 3.** Two views of the markings on a well-feathered juvenal.





Fig. 4. A defoliated nest tree showing numerous nests and a coating of "whitewash."

counted may have contained a somewhat larger than average number of nests, there appeared to be about 2000 to 3000 nests in the rookery.

In spite of the flimsily constructed nests and the activity of the young in climbing about the trees, the mortality is probably not extremely high. However, this could not be determined accurately from a few visits of short duration. By noting the number of dead birds of the year along a traverse through the long center of the area, it was estimated that the heronry contained the remains of about 150 dead young. This, of course, would be a low figure for the season's mortality. The remains of the birds which were lost while small would have been destroyed by the time we visited the rookery.

In general the odors within the rookery are not objectionable to the extent of being sickening, at least not to the writers. For those who shrink from slightly disagreeable smells, a heron rookery is, of course, not a place to be recommended for a visit or a sightseeing trip, especially on a hot day. Although there are many remains of birds in evidence, most of them have passed the odoriferous stage. Unless one lives very close to a rookery he is not likely to be seriously affected by the odors from it, unless he lives near by in the path of the prevailing wind.

Leading down from the rookery to the beach, a distance of about 1000 feet, is a line of low, well-foliaged trees, and in these many of the adult and juvenal herons already on the wing spend the day resting and probably sleeping. Large numbers of the birds, approximately 300, were flushed by walking through the area. Another area of trees, near by but to the east, also harbored large numbers during the day.

The economic status of the Black-crowned Night Heron is probably one of no significant value either in a detrimental or beneficial sense. The birds do

was late in the afternoon, while the second entry into the area was early in the morning. During the first afternoon relatively few of the young disgorged food, while during the morning visit the thuds from the dropped masses of food were many times more frequent, due undoubtedly to the recent feedings during the early morning hours. The ground, low bushes, and the trunks and branches of the trees are covered with "whitewash," caused by the fine liquid spray of excrement from the birds. Where the nesting population is densest the trees and surroundings are pretty white.

The area occupied by the heronry is approximately 450 feet long and varies in width from 50 to 260 feet. A reasonably conservative estimate would be an area 400 x 100 feet. In one area of 25 x 25 feet there were fifteen trees containing a total of 51 nests. While the area



eat some fish of commercial value and, in turn, they probably take many enemies of the commercial fish. It would not be very difficult to make a thorough investigation of their food habits in any rookery area by visiting the heronry and examining the crop contents of the young which are often ejected upon entry into the nesting site.

During the past several decades there has been an extensive expansion of summer residences into the more wooded areas on the Cape. Further extension of human culture, which is certain to occur, will result in more and more serious encroachment on the more suitable rookery areas. This will bring about more and greater conflict between the summer residents and the herons. It is not unlikely that the herons may eventually be forced to abandon the Cape as a site for rearing their young, unless sanctuary areas are provided for rookeries. There are, of course, two sides to the situation. In the first place, it is indeed undesirable to eject completely, by extermination or otherwise, any avian species from its natural habitat. On the other hand, when residences are built on the edges of established rookeries, or when the birds take over wooded areas adjoining residences, the continual noise kept up by the herons during the night is as undesirable as having a railroad switching yard located at one's back door in the country.

In the summer of 1952 it was reported that around 300 herons were slaughtered in a rookery along Stony Brook Road because the owners of the land objected to their presence. While the government authorities sanctioned the action to evict the birds, the manner of eliminating them involved the use of firearms. It appears that those assigned the task found it easier to do the job by satisfying the trigger-happy urge to use the birds as targets rather than discouraging them from using a particular nesting site by other means. Real control measures, in so far as colony birds are concerned, do not involve the wholesale slaughter of individuals of the colony. If directions are given by those having duly constituted authority to discourage the herons from using a particular tract of woodland as a rookery, then such discouragement could be executed by destroying the nests before the young appeared. A couple of men with long poles having a large hook attached at one end could very effectively pull down the nests early in the incubation period without destroying any living birds.

### Coming Events at the Berkshire Museum

#### Pittsfield, Massachusetts

- June 1-26. Original Water Colors. "New England Journey No. 1"—Loaned by Ford Motor Co.  
June 1, 8 p.m. Pittsfield Community Music School, Recital.  
June 4, 6:30 p.m. Annual Meeting and Banquet, Berkshire Museum Camera Club. John W. Doscher, Speaker.  
June 4, 8 p.m. Stockbridge School Play.  
June 5, 8 p.m. Recital by Junior Conservatory of Music.  
June 11, 3 p.m. Recital Pre-School Pupils of Mrs. Lawrence G. Hamilton. Benefit of Christian Center.  
June 11, 8 p.m. Lise Dance Recital.  
June 15, 2 p.m. Berkshire Museum Auxiliary Meeting.  
June 18, 8 p.m. Dance Recital, by Pupils of Miss Hazel Sclater.  
June 21. Hoffmann Bird Club, Overnight Trip to Mt. Greylock.  
June 25. Hoffmann Bird Club—Breeding Bird Census at Pleasant Valley Sanctuary.  
June 29, 8:15 p.m. OPENING OF THE 7TH SEASON OF LITTLE CINEMA.  
New projection, RCA sound, wide screen.  
(Daily thereafter all summer. Saturdays continuous from 7.)

## From the Editors' Sanctum—June, 1955

Those few of us whose recollections go back to the early days of the Massachusetts Audubon Society have seen many changes in the bird world and in the world of bird watchers. Our Society was founded at a time when many species of birds were approaching decimation or even extinction, when the word "conservation" was practically unknown, and when the few protective laws were in most places unobserved or unenforced. In the nearly sixty years of our Society's existence the general picture has improved greatly, though in certain details it has deteriorated sadly.

It is a bare forty years since the last Passenger Pigeon, a lonely caged bird born in captivity and carefully nurtured long after its ordinary expectation of life, died of old age in the Cincinnati Zoo, and the "countless millions" of this fine species became but a memory. Fifteen years later the last Heath Hen was being banded on Martha's Vineyard and photographed by Dr. Gross and Thornton Burgess. Today the Whooping Crane is down in numbers to less than twenty-five birds, the status of the Eskimo Curlew is questionable, to express it mildly, and, if the Ivory-billed Woodpecker is still persisting, its last survivors are most carefully (and most properly) shielded by the closest secrecy.

One of the finest of these rare species is the great Trumpeter Swan, and here the story is a little more encouraging. Between 1910 and 1920 the Trumpeter Swan was at such a low ebb that a nature magazine published the photograph of what was then thought to be the "last" Trumpeter. On my first trip to Yellowstone National Park I was therefore greatly surprised when I was told of a family of these great waterfowl on a small lake near Camp Roosevelt, T. R.'s favorite stopping place in the park. I was, however, privileged to visit the lake with the well-known California ornithologist Joseph Dixon, and to photograph the entire family of adults and cygnets. Since then these birds have prospered at Yellowstone and at nearby Red Rock Lakes Reservation, and at certain points in British Columbia, and their immediate danger of extinction is at least temporarily averted.

What is the story nearer home? What is happening to our New England game birds?

The Bob-white Quail has passed through various vicissitudes. As a boy I saw long lines of snares set where Quail abounded, and the city markets in the fall and early winter were festooned with garlands of bloody and bedraggled carcasses strung around the show windows, interspersed with braces or foursomes of Ruffed Grouse and an occasional imported or cage-reared "English" Pheasant. Today in Massachusetts the Bob-white is largely a product of the game farms, not a descendant of native stock reared in the wild. The wild and wily Ruffed Grouse has more nearly held its own under hunting pressure, though housing developments are continually encroaching upon its natural habitats; the now-abundant introduced Pheasant, larger and more easily attained, has undoubtedly taken some of the hunters' interest from our woodland "Partridge." The beautiful Wood Duck, once very seriously threatened, has, under nationwide protection, increased slowly to the point where its protection has been removed and its future is again not very bright, I fear. The last Wild Turkey in Massachusetts was killed just about one hundred years ago, and, while it is holding up fairly well in Pennsylvania under modern game management and rigidly enforced laws, attempts to reintroduce this fine species in southern New England with its dense population seem certain of failure.

There is still much work for the Audubon societies and similar organizations to carry on, but education of the masses in true conservation is the great need of today. The educational program of the Massachusetts Audubon Society is assuming a position of great importance in developing the thinking of the rising generation after this pattern.

John Richard May

## The First Year With Our Raccoons

BY AGNES S. J. POWERS



On the morning of March 25, 1946, I saw strange tracks on a board that was lying on the ground in our back yard. It was raining. I turned the board over to keep the tracks from washing off, so that I might show them to my husband at noontime. He immediately identified them as Raccoon tracks. That was the beginning of the story.

For more than twenty years I had been feeding birds, Red and Gray Squirrels, and Striped Chipmunks that came to our yard. It was doubtless breadstuffs left on the kitchen window shelf that first attracted the attention of this hungry Coon. That night I put out a plate of selected food, including a haddock head, to show this nocturnal guest that he had come to

the right spot. It was gone in the morning. So far as I can remember I have never since that night failed to provide a Raccoon supper, except in the winter periods when they have been sleeping the cold away in their dens.

The Raccoon which first came was soon joined by a second, and later by a third. With progress hardly perceptible we set about the business of taming them. At first we put out the lamps (we had no electricity at that time) and, when they came before bedtime, we watched them by moonlight or, when the moon had failed, strained our eyes to see the dim silhouettes pressed against the windowpane. They were large Coons, probably five or six years old at least. We whispered our comments to each other and tiptoed about the room. By early summer we had progressed to the point where they would come to the feeding-shelf with my husband and me seated in the lighted kitchen, if we stayed put and made no move. We began to talk quietly in natural tones, but it was long before we dared to rise from a chair and move about, or even to move a hand if we were sitting at the table beside the window.

We wooed them with dainties. An entry in my diary dated May 3 reads "Coons' menu last night: chicken liver and kidney, raw; mackerel spawn, cooked; half a stale apple turnover, left from Carroll's dinner-box; stale doughnut, already decoated by Chickadees and finches; white bread and a piece of pilot bread; all placed on the window shelf and all polished clean in the night. Also more than half of a raw 'brim' laid up on the ledge." (*Brim* is colloquial. The proper name is bream, fish used for lobster bait. My husband was a sardine and lobster fisherman.)

In the summer the parent Coons brought their children. It is probable that they were in their mother's care at that time, but I do know that later "Pa" was present also. August 9 in my diary has this entry: "Last night when

Carroll came home, very late, he heard a sound of scuffling and scrambling by the kitchen window. It was caused by three baby Racoons. He came in and hastened upstairs to call me. I came down and we went out together. One coonlet had disappeared, but the other two were standing upright in the wire-enclosed first shelf that leads to the window shelf. I never saw anything cuter. The foremost had her forepaws, which are so like *hands*, up on some article that had been left on the shelf. She was so *coony* that she looked like a very tiny little girl in a profusely-ruffled pinafore. She gave me a wide baby stare, partly fright, partly interest. Carroll wanted me to touch them, but I didn't want to frighten them. Tonight I put out extra food, including popcorn that was a bit stalinsh."

August 10 continues: "Had a dog scare about my Coons at 11:30 last night." (I was awakened by the barking of the big dogs, a great Dane and a Newfoundland, which were coming up the road toward our house.) "I rushed downstairs and outdoors in my nightie, waving my arms and screaming like a banshee when they threatened to come up our driveway. But they had gone by the time I got down to the apple tree. No Coons were in sight, but a partly-overturned plate of popcorn and several pieces of bread remained on the shelf. By morning these had been cleaned up."

By the latter part of September we began to tame the young Coons, a task much simpler than the taming of their parents. The entire group, old and young, now numbered seven. They were Pa, Ma, Johnnie, Tommie, Susie, and Little Eva, and a somewhat hysterical adult whom I had named Aunt Emma. It was my husband who first invited the coonlets into the kitchen. They had been wishful for some time to investigate the realm from which such delicious foods had emanated. But I had been fearful that they might become panicky and jump on our big coal range. My husband, more venturesome than I, took a chance on this and with no direful results. On October 8 there were two in the kitchen when he gave the first lesson in sitting up to beg. He made good progress. They did sit up and begged for doughnuts and waved their hands and reached them out for proffered chunks. They were *very* cute. Two night later one of the coonlets, while calling in the kitchen, untied my shoestring and tried to pull off one of the little decorative balls on its end.

All four of the young Coons were now taking food from our hands, and the parents, emboldened by their example, were accepting doughnuts and muffins through the crack of the door, and later came in to stand briefly on the rug by the door, but they always took their treat outside to eat. There was an interesting angle. In all the years of my feeding them it has been necessary to leave the door wide open if they have come inside. Otherwise they feel trapped. Many a night in late November I have sat for nearly an hour, coated, hatted, and my rubbers on for warmth, with the cold winds blustering through the yard, while I entertained my guests. They, too, had donned extra clothing. Their brownish-gray coats of the summertime had now been reinforced by rich silky overlay of long black hairs, and their little black hands were wearing neatly-fitted gray mitts.

Through the fall we were visited by many sightseers. Not only my neighbors and townspeople, but those from neighboring towns and some from the cities begged to be allowed to come and see the fun. Whole families came to watch delightedly while the four youngsters stood and begged, then caught the little tossed chunks of bread and doughnuts in their hands and bore them to their lips or courteously accepted peanuts from our fingers or from a dipper that I held in my lap. Their manners were a sight to see. Many a child would

have done well to copy them. I always sat in a chair facing the door, but not too close. Johnnie's place was soon established at my knee. Tommie's individual servings of peanuts were placed on the cushion of the rocking chair by the door. He stood on his hind legs, reaching through the opening under the arm of the chair to rake his peanuts toward him. The girls, Susie and Little Eva, were more timid and remained only a little way inside the door, standing to beg, stooping to eat, standing again to beg, until their stomachs must have been rounding full. The adults usually stood just outside the door on the porch, patiently awaiting their turns.

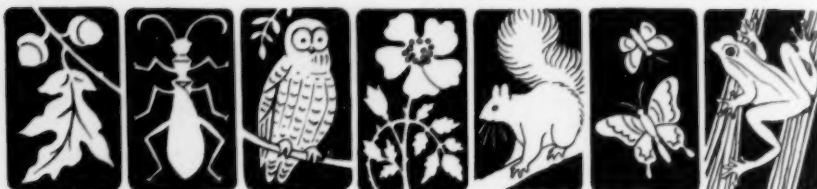
On November 13 there was a new development. It was a night when Johnnie had caused me deep concern by arriving very late. He had eaten so much the night before, when we had demonstrated our wild folk to several groups of visitors, that when he did not appear with the other members of the family I had begun to fear he had had a fatal attack of acute indigestion or perhaps a stroke. I quote from my diary: "When Johnnie did come we received him with open arms, but noted that he and Tommie both watched the open doorway with expectancy or apprehension — we could not tell which. Soon others gathered outside and when a small commotion became apparent I looked over the outer rim of patrons on the doorstep and perceived a small individual whom I had never seen before. Fully five pounds smaller than the other young Coons, with a little pussycat face and a little faded-out tail, the stranger was making a valiant effort to catch a bite here and there from the servings of others. Tommy, eating his own peanuts from the seat of his chair by the door, left them repeatedly to discipline her when she drew hopefully near. Johnnie ignored her, since she was not jeopardizing his individual peanut dipper on my knees. I managed to get several pieces of doughnut and two or three peanuts to her, and later when Johnnie and Tommy had gone I scattered chunks of bread and more peanuts on the porch, so I know she had quite a lunch after all."

It had been famine year in the woods that fall. This little waif, whom I named Dolly, must have been one of a litter reared over at the marshes more than a mile away. We knew that gunners had been in that locality, and presumably the other members of her family had been shot. Foraging for food alone, she had fallen in with the family that came nightly to our door. She plainly showed how hard her life had been. So thin was she, so ill-prepared for a winter's sleep, when her body must feed for months on its own stored fat, that she did not den up until nearly a month after my fat little pigs had retired. In no time she was coming into the kitchen and eating prodigiously to make up for lost time. I became very fond of her, and she became devoted to me in return.

In my nine seasons of feeding these creatures of the wild, one of several outstanding facts has been that they are individuals, with different temperaments, different habits, even different tastes. In each group there have been those with whom I have had real fellowship of the soul. It was so with Johnnie, and the following year it was so with Dolly. When Johnnie stood at my knee shelling and eating his peanuts with his mind at ease, our souls communed. Deep into each other's eyes we gazed for long moments at a time, plumbing the depths in a personal, intimate, understanding relationship such as I would have cherished with a rare human friend.

*Later.* Tommy is no longer here, nor Johnnie, nor Dolly. Life is very uncertain for Raccoons.





## EDUCATIONAL NOTES

Although this year's Audubon teaching program in the public schools closes in early June, the activity of the teaching staff in the Audubon Education Department is by no means terminated.

Immediately after the spring teaching staff conference at Mt. Greylock (held just prior to the Berkshire Campout), part of the group will transfer to the Natural Science Workshop at Cook's Canyon to assume leadership responsibilities there.

By late June all who will be engaged in sanctuary duties will be immersed in the details of precamp organization.

We anticipate that at least twenty of our twenty-five teachers will be associated with our summer program, since three two-week sessions of natural history day camps for boys and girls will be conducted at Arcadia, Cook's Canyon, Ipswich River, Moose Hill, and Pleasant Valley Sanctuaries, in addition to Wildwood, the resident natural history camp at Cook's Canyon, and there will also be the presentation of special science programs at other camps.

Each camp period is limited in age range and enrollment, to insure individual attention for the campers under adequate leadership. Also, suitable field trips and activities can be more readily planned.

A typical day at camp includes a get-together, exchange of observations, field trip, lunch or cookout, quiet period, nature craft project (often directly correlated with the field trip), a discussion and planning time for future events, and closing.

Apart from organized camp activities, members, friends, youth groups, or family groups are always welcome at the sanctuaries for exploration trips or picnics. However, advance notice is desirable in the case of groups other than families.

For the natural history enthusiast, what better place is there for a walk or picnic than a neighboring wildlife sanctuary?

FRANCES SHERBURNE

### Education Through Television

The Education Department is proud to announce that part of the material presented to school classes throughout the State will now be available to more children through the increasingly widespread medium of television. With the Children's Museum, the Massachusetts Audubon Society is sponsoring a series of educational programs in natural history. Every Friday from 5:30 to 6:00 P.M., on WGBH-TV, Channel Two, through the Lowell Institute Co-operative Broadcasting Council, "Discovery" may be seen. According to Mary Lela Grimes, member of the education staff and conductor of the programs, the aim of "Discovery" is to stimulate the interest of young people in the world around them, to enhance their enjoyment of nature and the out-of-doors, and to encourage a methodical approach to natural history as a rewarding and fascinating study.

M. B. S.



## How to Enjoy the Outdoors in June

BY RICHARD HEADSTROM

Note that the berries of the shadbush are ripening. Keep one of these trees under observation and see how quickly the berries disappear. They are much sought after by birds, and few remain on the branches very long.

Look for pitcher plants in bogs and swamps. Examine one of the plants closely and note how it has become adapted to catch the insects on which it depends for nitrogen, essential to protein formation.

Be on the watch for the first of the monarch butterflies to return from the South. They are the large butterflies with orange-red, black-bordered wings seen flying over fields and meadows and along roadsides.

Observe that Goldfinches have now assumed their breeding costumes of gold and sable.

At night listen for the calls of the bullfrogs.

Observe how the red maples are aglow with scarlet keys.

Look for the purple pendant blossoms of the nightshade in a hidden nook or along a wayside wall.

Where woods border fields and meadows, watch for brown butterflies that fly lazily about visiting nectar-laden blossoms. There are various species with such delightful names as the wood satyr, the pearly eye, and common wood nymph.

If you have a mind to visit a swamp you may find marsh wrens building their nests. But don't be dismayed if you fail to see them, for at best they are difficult birds to find.

Note how daisies whiten fields and meadows like a winter snowstorm. Select one of these flowers at random and perhaps you will find small black insects threading their way in and out of the tiny florets. They are thrips, queer insects with bladderlike feet and lopsided mouths.

Follow a woodland trail and look for the bunchberry. Note that its small greenish flowers, which are surrounded by showy pure-white, petal-like leaves, suggest its kinship to the larger flowering dogwood.

In sandy uninviting places, look for the frostweed, which opens its solitary yellow flower only once in the bright sunshine.

Look for ripening wild strawberries. These berries have a distinctive flavor of their own, and if you have never eaten them by all means do so.

If you have a chance to stroll down a little-traveled country road, note how yellow butterflies fly about on your approach. These delightful little butterflies add a distinctive charm to the summer landscape.

Examine yarrow clusters for small greenish-yellow insects with projections from the body and a broad black band across the abdomen. These are ambush bugs, so called because they lie in wait for unsuspecting insect visitors on which they feed.

Along the water's edge of ponds and streams note that the arrow arum is in bloom and that the pickerelweed is beginning to blossom.

As twilight deepens watch for bats and observe their erratic flight.

In woods and copses look for the sheathed amanitopsis. This attractive mushroom has many color variations that often prove bewildering to one when learning to identify it.

Look for the wild indigo with its yellow pealike blossoms where other plants are unable or refuse to grow.

On various trees look for caterpillars of the gypsy moth. If you find them, look further for the large beautiful calosoma beetles, often referred to as caterpillar hunters. The name is well given for obvious reasons.

Listen for the staccato notes of the Scarlet Tanager in woodland thickets.

Note that orchard grass is now in bloom in fields and along roadsides.

Be careful that the small white flowers of the poison ivy do not tempt you to touch any part of the plant.

After night has fallen, sit on the porch and watch for fireflies. There are a number of species and each has a characteristic method of flashing, distinguished by intensity, duration, number and intervals between flashes, and flight levels. Many enjoyable moments may be spent in learning to identify the various species by their flashes.

If you have rosebushes in your garden, be on guard against the destructive rose chafers. These insects appear suddenly in great swarms and overrun their food plants almost before we are aware of their presence.

Be on the watch for June bugs at night. Attracted to lights, these large mahogany-brown beetles buzz and bang against our screens and often invade our rooms. They are harmless, though the larvae are sometimes injurious to roots of various plants.

Visit a pond or stream and observe the dragonflies. You will find that the larger ones keep to the higher regions above the water and pass and repass the same point at intervals of a few minutes, while the smaller species are less constantly on the wing and fly usually in short sallies.

Note how fields seem afire with the devil's paintbrush.

In open glades, look for the light feathery clusters of the New Jersey tea. During the Revolution a substitute tea was brewed from the leaves.

### **Pleasant Valley to Conduct Summer Walks**

A series of walks and talks for the summer season, beginning Sunday, July 10, and continuing to August 18, will be conducted at Pleasant Valley Sanctuary, Lenox. Groups will meet at the Trailside Museum at the following times:

Thursday morning walks, 8:00

Sunday morning walks, 8:00

Saturday afternoon, walks and talks alternating, 2:30

The trips will be about one hour in length. Attention will be given to all wildlife forms, birds, amphibians, insects, and flowering and non-flowering plant life.

### **Next Bulletin in October**

We remind our readers that with the June issue of the *Bulletin* publication is discontinued until October. Announcement of coming events will be made to all members in the *August Newsletter*.

## Wildwood Nature Camp

July 3 — August 13, 1955



GORDON HICKS

A record enrollment of boys and girls from nine to fifteen years of age at the Wildwood Camp of the Massachusetts Audubon Society, at Cook's Canyon, Barre, Massachusetts, indicates increasing interest among young people and their parents in the natural history field. By May 1 two of the three sessions were filled to capacity and it was necessary to place further applicants on a waiting list. An additional tent site is provided for girls this year, but all

(Continued at bottom of next page)

## LOOKING AHEAD



- June 2, 9. Ipswich River Sanctuary, Topsfield. Picnic Supper, 6:00 P.M. Conducted walk, 7:00 P.M.
- June 8-10. Audubon Teachers Conference, Mount Greylock.
- June 10-12. BERKSHIRE CAMPOUT. Headquarters, Berkshire Museum, Pittsfield.
- June 15-25. CONSERVATION AND NATURAL SCIENCE WORKSHOP, Cook's Canyon, Barre.
- July 3-Aug. 13. Wildwood Camp. Cook's Canyon, Barre, Massachusetts.
- July 5-Aug. 12. Natural History Day Camps: Arcadia Sanctuary, Northampton; Cook's Canyon, Barre; Ipswich River Sanctuary, Topsfield; Moose Hill Sanctuary, Sharon; Pleasant Valley Sanctuary, Lenox.
- July 10, 17, 24, 31. Pleasant Valley Sanctuary, Lenox. Sunday morning walks, 8:00 A.M.
- July 14, 21, 28. Pleasant Valley Sanctuary, Lenox. Thursday morning walks, 8:00 A.M.
- July 16, 23, 30. Pleasant Valley Sanctuary, Lenox. Saturday afternoon, 2:30. Walks and Talks alternating.
- August 4, 11, 18. Pleasant Valley Sanctuary, Lenox. Thursday morning walks, 8:00 A.M.
- August 6, 13. Pleasant Valley Sanctuary, Lenox. Saturday afternoon walks and talks. 2:30 P.M.
- August 7, 14. Pleasant Valley Sanctuary, Lenox. Sunday morning walks, 8:00 A.M.
- August 21. AUDUBON FIELD TRIP. Crane's Beach, Ipswich.
- September 7-9. Audubon Teachers Conference, Nickerson State Park, E. Brewster.
- September 9-11. CAPE COD CAMPOUT. Headquarters at Chatham.
- October 16. AUDUBON FIELD TRIP. North Shore.
- October 25-30. Convention of AMERICAN ORNITHOLOGISTS' UNION. Museum of Science, Boston.

### Brookline Bird Club Trips

#### Open to Members of the Massachusetts Audubon Society

- June 4, all day. Concord U. S. Wildlife Refuge. Miss Barry, MELrose 4-5888.
- June 5, afternoon. North Reading. Mrs. Blanchard, North Reading 4-3198.
- June 7, evening. Horn Pond, Woburn. Miss King, SOMerset 6-3213.
- June 11, all day. Fay Estate and Ipswich River Sanctuary. Mr. Lewis, CRYstal 9-1355-R. Afternoon, Ipswich River Sanctuary, Miss Lawson, CAPitol 7-5618.
- June 14, evening. Lowell Street, Wakefield. Miss Woodbury, CRYstal 9-0010.
- June 17, all day. Sharon. Miss Collins, COMmonwealth 6-5800.
- June 18, all day. Bedford, Carlisle, and Concord. Bedford Square, 8:50. Miss Caldwell. Afternoon, Marblehead Neck Sanctuary. Miss Jewell, LYnn 2-0371.
- June 21, evening. Horn Pond, Woburn. Miss King, SOMerset 6-3213.
- June 25-26. Week-end trip to Mount Greylock. Mr. Jameson, Beverly 1720-J.
- June 28, evening. Lowell Street, Wakefield. Mrs. Tait, CRYstal 9-1995-R.

#### WILDWOOD NATURE CAMP — continued from page 279

campers will have opportunity to experience the joy of sleeping under the open sky. They will fall asleep while listening to voices of the night and awake to the morning chorus of birds. They will cook appetizing meals over campfire embers. Congenial companions, good fun, and natural history explorations under competent leadership are the perfect ingredients that make camping at Wildwood an unforgettable experience for the young naturalist.

## Robins at Crane Cottage

BY MARGARET L. CHAPIN



LAUREL REYNOLDS

Crane Cottage is a dormitory at the Northfield School for Girls, a preparatory school in the Connecticut valley in Massachusetts, near the New Hampshire line. The building stands across a maple-shaded village street from the open campus. The south side of Crane is heavily shaded by four sugar maples lining the driveway.

Late in April our front porch began to be littered with coarse dead grass, bits of tissue handkerchiefs, and other trash. A Robin had decided to build on the tiny projection over the door directly over the air brake. Several times daily someone would have to sweep up the porch. A few days later, on May 7, as I stood by the window, a Robin suddenly bore down upon me laden with a great load of grass and towing a streamer of toilet paper, which she laid on the sloping roof of my feeding shelf; then, squatting in the middle and rotating her body, she pressed it against the surface of the roof. Of course the materials promptly slid off, but she did not seem worried and went after another load. After a half day of labor she had succeeded in making only a handful of grasses adhere to the wood; but by noon the next day she had completed the outer structure of the nest. She spent that afternoon bringing mud, and by late afternoon she was lining the mud cup with fine dry grass. At no time were two birds working together; to the best of my knowledge it was only the female who worked on this nest.

For two days I had no birds at all, only a handsome empty nest; then on May 11 the first egg was laid, and the fourth on May 14. It did not seem to disturb the Robin at all that I walked about my room or that others were there with me, nor that noisy people ran up and down the stairs, nor that dead silences were broken by loud bells and raucous shouting and singing. She did not mind my desk lamp shining in her eyes three feet away. She let me quietly raise and lower the window shade, or raise and lower the window, even though when she sat in one position her tail brushed the pane.

So far the nest had seemed to be a one-bird project; the male was not feeding the female, who would leave her incubation duties for perhaps five minutes out of each hour during the daytime. Occasionally the male stopped by and perched beside the female on the rim of the nest, and both gazed silently at the eggs. On May 21 the female flew away at the male's approach and he lighted with a beakful of worms, which he offered to the eggs. They did not seem responsive, so he ate them himself. Thereafter he repeated this offer of food every few hours, as if he thought the eggs must be almost ready to hatch.

On May 25 the Robin was brooding her eggs as usual, and it was not until 8 A. M. that she left for a breather and revealed that one of the eggs had hatched. The hollow between the three remaining eggs made a good resting place for the tiny head, with its gogglelike eye-sacs taking up the whole side of the face; and the ropelike neck, with pulsing red artery, fitted easily into the crevice. The lizardlike little body, naked except for a few wet pinfeathers, seemed to have arms without hands rather than wings.

The male Robin now stepped into his role as chief provider for the young. On hearing his approach the female usually left the nest, but during the first two days she sometimes remained and demanded some of the food for herself. The food was small insects and small smooth caterpillars, three or four to a beakful, and more than a single newly-hatched bird could eat at one feeding. The male would light and softly cluck until the young bird raised its head blindly on its stalk; if some food was left after feeding and if repeated clucks did not bring up the little head again, the male would eat it himself and then watch closely for the young to excrete so that he could take up and swallow the sac of excreta.

The female brooded closely all day, frequently rising in the nest to peck at the grass lining. It was possible to see into the nest only when she left on brief feeding trips. The second egg began to hatch about noon when two small holes appeared in the shell; by 5 P. M. there was a hole of perhaps one-eighth inch diameter, about which a small prong could be seen moving, almost imperceptibly enlarging the hole. By 7 P. M. the second egg had hatched, and the third apparently hatched during the night. By mid-morning of May 26 the fourth egg showed a small hole; by noon the wandering prong had begun to show. By 1:30 P.M. the hole was oval in shape and more than half an inch in longest diameter, at about the mid-line of the egg, revealing the folded wings, the doubled-over head and neck of the embryo, with the neck artery pulsing and the tiny lungs panting. The wings were making struggles like the pushing outward of elbows. These observations had to be made hastily when the mother rose on the nest to peck; it seemed that she pecked off loose bits of shell, and even that she directed some of the pecks at the half-hatched young bird. I thought it possible she was removing rough membrane or possibly fluid which might be hardening into a gluey substance. One espe-



cially vigorous peck cracked the shell completely around its mid-line; the mother seized the upper half of the shell and devoured it; this freed the head, neck, and wings of the little bird, which at once stretched out but was unable to free its feet from the other part of the shell. The father now came with food; in response to his clucks the newborn chick raised its head and received some food; the father, glancing about for the excretion to follow, noticed the half shell, twitched it off the little one's feet, and flew away with it.

For some days now the mother brooded the tiny birds as closely as before they hatched. The usual technique of feeding was for the father to spend his full time in finding food. He would bring three or four items of food and would cluck persistently and seem to wait until all the young had heard him and raised their heads, then he would dip his beak into one mouth after another; it seemed to be up to the young one to take hold of the food, or the father's beak would bring it up and offer it to the next hungry mouth. He would then attend to the excretions, which seemed to follow eating like clock-work. I suppose Robins are not able to count, but the father always seemed to know whether there would be two, three, or four who would need this attention according to the number whom he had fed. Probably he could tell this by watching their behavior.

On May 27 it was possible to tell in what order the young had hatched by looking at their down, which on the eldest was now attractively fuzzy except for the neck. There was even a sign of a membrane at the base of the wing. The ear-orifices were plainly visible.

May 28 was cool and windy and the mother kept them covered most of the day. The skin under the down was beginning to take on the chestnut and black colors which would soon belong to the feathers to appear in these areas. The father began to bring bits of angleworms to the young.

May 29 they began to be so active that it was difficult for the mother to sit so that they were entirely covered. The varicolored patches of skin were more pronounced on the young. They had grown enough so that the little heads could be seen over the edge of the nest.

May 30, a cool cloudy day, the mother again tried to cover the nest. It lasted about five minutes; then it was like a pot boiling over; up, down, up she went, and out around her boiled a broth of four little heads. The small birds' eye membranes had slit; they had visible feathers; and in the open mouths tiny tongues could be seen.

May 31, when it was 45° in the morning, there was again a struggle to keep the mother from sitting on the little ones. The feathers on their wings were now definitely developed, and one young bird flapped its wings a little. Next morning they had good coats of feathers, and were eating angleworms and were apparently able to catch their own parasites.

The morning of June 2 was so chilly the mother again covered them for a short time. They now clearly showed white streaks beneath their chins and chestnut on their flanks. When a yellow jacket buzzed past the nest, they made a pass at it. June 3 they were well feathered, their chestnut breasts speckled heavily. Feathers now covered the ear-orifices, and there was a pale gray tuft of fuzz near the spot. The young had developed a habit, alarming to watch, of suddenly hanging a head over the edge of the nest, in a manner suggestive of seasickness, then giving the neck a writhing jerk and letting the head and neck fall limply, suggesting that the little bird had just had its neck wrung.

After seeing half a dozen of these apparent deaths followed by immediate revival when food appeared, we decided it was a way of dropping off for a short nap.

June 4 the little birds began to take some notice of the many persons who were stopping to see them. The weather turned warm and they began to sit with their mouths open, as their mother had done earlier. June 5 they could not sit together comfortably in the nest; one or more had to perch on the backs of the others. For the first time the rim of the nest and the area beneath it became soiled with their excreta. A tiny tail began to show, and the tips of the well-grown feathers showed the down which had grown out on them. They spent much time in wing-flapping.

On June 6 their breasts were speckled as leopards, they had tails probably half an inch long, and they had necks with feathers like fluffy boas. Their voices began to change to the throaty bleat typical of the just-fledged young Robin. On June 7 the parents apparently had no way of keeping track of who had been fed last. Usually now each parent brought food for two per trip, and three times running it was fed to the same two. The one which seemed to be fed oftenest was perceptibly the largest, although they all now had black crowns and tails an inch long. About 3 P. M. that day a student and I working at a desk near the window noticed that there were only three birds in the nest. There had been constant wing-flapping all day, but the first departure had taken place with no outcry from the young or from the parents.

June 8 it was possible to distinguish the three remaining young; two had lost one ear-tuft; of them, one had a blacker head than the other; the third was smaller and had both ear-tufts. This was the Commencement Day of the Northfield School for Girls, and the occupants of the many cars in the driveway below were entertained to see the Robins teetering on the edge of the nest. At 7 P. M. there was only the smallest Robin sitting alone in the nest, looking, to me, rather disconsolate. About 7:30 the little bird flapped its wings and found itself on the window sill. A little later it turned and flew into a near-by tree and found a secure perch; here the father found it and fed it, and it spent the night.

On June 10 I took the nest down and left town for the summer, so I do not know the later adventures of the young birds, or whether the old ones raised a second family, but the day I left I found another nest on the long back porch, where another Robin was brooding some eggs in the grapevine.

### Cape Campout — September 9-11

The annual Cape Cod Campout conducted by the Massachusetts Audubon Society will be held the week end of September 9-11, 1955. An Audubon field trip by automobile to Crane's Beach, Ipswich, is scheduled for Sunday, August 21. Full details on both events will be published in the *August Newsletter*.

## Roger Ernst



ROGER ERNST was a man of keen intellect, exceptional industry, and of great initiative and enterprise until a severe heart attack in 1936 compelled him to give up his more strenuous activities. What he achieved thereafter was nothing short of miraculous.

He was secretary of the Phi Beta Kappa of his Harvard Class of 1903, the position usually given to the first scholar, and was the secretary of his college class from graduation until his death. At his funeral the officiating clergyman, his classmate Rev. Dr. Charles Whitney Gilkey, told of the faithful attention he gave to this exacting office. His Fiftieth Class Report is a model. During his first year in the Harvard Law School he acted as graduate manager of Harvard Athletics and, notwithstanding that time-consuming work, secured the grade that made him president of the *Harvard Law Review* during his years in the Law School. Professor John Chipman Gray singled him out and took him into his law office, and there he did such good work that he was soon made a partner and given charge of complicated matters of corporation finance.

Later this led to seven business trips to Europe and a year's residence in Paris, where he opened an office for his firm.

Notwithstanding the quickness of his mind, Roger was patient with those not so quick. He was always kindly, considerate, and sympathetic. It is sad to think of him as the last of his line. His father, George Alexander Otis Ernst, a distinguished lawyer, was devoted to municipal reform. As a member of the Boston Finance Commission he drafted the reform amendments of 1909 to the Boston Charter. Of him the *Boston Herald* said, "He died not simply in harness but dragging with all his might a whole great city towards better methods of administration and higher standards of civic life." Roger's mother was the sister of Edward Lassiter Bynner, author of the historical novel *Agnes Surriage* and other works. His uncle Dr. Harold C. Ernst, an eminent bacteriologist, was the first professor of bacteriology at the Harvard Medical School. It was from Dr. and Mrs. Ernst that Roger inherited his summer place at Manomet Point, which he found to be the only place in New England frequented annually by the Blue-gray Gnatcatcher.

His services to the Roxbury Latin School, of which he was himself a graduate, were most important to the school since under his presidency of its Board of Trustees they raised the necessary money to purchase the fine Codman Estate in West Roxbury, erect commodious buildings on it, and engage able masters to conduct it.

He married Miss Ruth Graves, of Newburyport and Buenos Aires, who was much interested in languages, art, and out-of-door subjects, having spent her girlhood in the Argentine, whither the business interests of her father led him to remove his family.

Roger and Ruth became ardent students of ornithology, and Roger served as a director of the Massachusetts Audubon Society from 1939 to the present; he was also a member of its executive committee and of its committee on education.

He died suddenly on March 30, at Rockport, Texas, where he had gone for the fourth year to see the spring migration of birds under the expert guidance of Mrs. Jack Hagar, one of the famous bird-observers of North America.

His funeral service was held in the Harvard Memorial Church, which was thronged with classmates and friends.

His affiliations were many in government, banking, and social affairs, and he was punctilious in the fulfillment of all of them. He will be greatly missed, and nowhere more than in this Society.

ROBERT WALCOTT

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### Week End in Arcadia

This year's Connecticut Valley Campout was held, May 13-15, at the Arcadia Wildlife Sanctuary, Northampton, with a full registration. Two days of perfect weather helped turn up 121 species. Four of these, the Woodcock, Screech Owl, Whip-poor-will, and White-crowned Sparrow, were seen only at the sanctuary. Highlights of the week end, according to Professor Samuel A. Eliot, Jr., were a Red-tailed Hawk, Yellow-bellied Flycatcher, and Gray-cheeked Thrush.

The Pileated Woodpecker was seen as a nesting bird at both Mt. Tom and Forest Park. A fine view of a pair of Worm-eating Warblers was had on Mt. Tom; a Brewster's was singing in the brushy corner as last year, Cape Mays and Wilsons flitted through Arcadia's spruces, and Bay-breasts and Tennessees were seen in several places. The Grasshopper Sparrow was well seen in the usual likely spots, while Warbling Vireos gave indication by their songs that they were present in greater than usual numbers. The Louisiana Water-Thrush was found in his familiar habitat at the foot of the Sunderland Waterfall and at the Sunderland Fish Hatchery, as well as in the valley to the south.

Great Blue Herons were surprisingly scarce; only one was recorded during the entire campout. But Edwin A. Mason and many others were impressed by the tremendous numbers of Blue Jays. Fields and trees throughout the valley were literally covered with migrating jays.

Butterflies were also seen, many Cabbage and Sulphurs, several Mourning Cloaks; and good looks were had of a Red Admiral, a Gray Comma, a Harvester, and a migrating Painted Lady.

M. B. S.



## SANCTUARY NEWS

With April, spring came at last to the sanctuaries. Birds returned, blossoms and leaves opened, and amphibians raised their voices to serenade the new season. On the 3rd a flock of Canada Geese passed northward over Pleasant Valley. Purple Finches returned to Cook's Canyon after having been absent since August, while White-throated Sparrows and a Yellow-bellied Sapsucker were seen at Ipswich River the first week of the month.

By mid-April Black and White, Myrtle, and Yellow Palm Warblers had returned to Moose Hill, along with brilliantly plumaged Goldfinches, and by the end of the month Chipping Sparrows, Towhees, and the first Rose-breasted Grosbeak. Towhees and White-throats came to David Miner's feeders on the 18th, and at Arcadia the Yellow, Black and White, and Black-throated Green Warblers were heard. Elmer Foye reported a Bittern, Yellow Palm Warbler, Kingfisher, Swamp Sparrow, and Hermit Thrush on April 10, while a week later he listened to Ruby-crowned Kinglets spinning their intricate song.

Along with the advent of the first Phoebe on April 4, twenty inches of snow fell on Pleasant Valley, damaging the old apple tree beloved of day campers. The chestnut fence built many years ago by Charles Hartman and Maurice Broun was repaired by replacing several rotten fence posts. Alvah Sanborn writes that the work was hard enough with power tools!

The Great Horned Owls, with two or three young, left their nest near the Warbler Trail at Arcadia. But Wood Ducks began to nest; Edwin Mason saw them flying in and out of their boxes. Sparrow Hawks took up residence in boxes, and Tree and Barn Swallows in abundance slanted on the air. Alvah Sanborn found an early Ruffed Grouse nest on April 23, and watched two Ospreys.

Mid-April saw the rising tide of the amphibian salute swell to resounding proportions, wrote Albert Bussewitz. Loud in the evening were the voices of both local species of Hylas, the trilling toads, the strumming Green, and the vociferous Wood Frogs. Gelatinous egg masses were found with delight by youthful eyes, and salamanders were ushered in to the sanctuary headquarters in increasing numbers by young discoverers.

The cornelian cherry was in full bloom at Ipswich River on April 14, and bloodroot was out. Trilliums in variety, fuzzy hepaticas, and finely-foliaged Dutchman's-breeches were among the wildflower favorites that added charm and color to the Nature Trail at Moose Hill.

At Arcadia, on April 17 Crescent Bank became a completed project. Over 275 wildlife food plants now cover the bank, insuring that soil erosion will not occur on the steep slope, as well as providing nesting and escape cover for birds. In spring and summer there will be blossoms from the crab apples, multiflora rose, and shrub dogwood; in fall and winter, fruits and brightly colored leaves; and at all seasons, the varied shades and textures of the ever-

greens. The spruce and fir planting abutting the oak coppice is nearly complete; only a few more plants are needed.

The Hoffmann Bird Club has given Pleasant Valley a gift of nine mulberry trees. Some of these have been planted along the entrance walk, some near the Trailside Museum, and the rest in the field north of the museum. And in the lawn edge shrubbery at the head of the trail to the museum, a bird bath has been placed in memory of Mrs. Brenton C. Pomeroy, a former trustee, for many years active on committees of the sanctuary and interested in attracting birds through plantings. Elmer Foye set out oaks, maple, and laurel in the wildflower garden at Ipswich River. And at Cook's Canyon the Barre boy scouts started a pruning and thinning project on a portion of the sanctuary.

School classes have been visiting the sanctuaries in large numbers. Worcester students ate their lunch on rainy days in The Ledges before an open fire. As the climax of the Audubon Natural Science Course, many of the nearby classes enjoyed the excitement of discovery along the eight miles of winding trails at Moose Hill. Two groups of students visited Arcadia, as well as brownies and cub scouts from several neighboring towns.

Dr. and Mrs. Ralph Palmer were guests at Pleasant Valley early in April, when Dr. Palmer spoke on "The Birds of Churchill, Manitoba" and observed the beaver ponds. Chandler Fulton, who worked at the sanctuary for several summers, returned to spend a night or two under the trees. And supervisors of the Hampshire County Soil Conservation District paid a visit to Arcadia.

Edwin Mason, always in demand as a speaker, addressed the Easthampton Methodist Church Men's Club on "Conservation Ethics" and the Amherst Woman's Club on "Attracting Birds to the Garden."

The original prints from the beautiful color photographs of native wildflowers, Woodland Portraits by Jeannette Klute, have been on display at Moose Hill. Lent through the courtesy of Little, Brown & Company, these prints have elicited high acclaim. After the middle of May they may be seen at Ipswich River, and later at Arcadia, until July 15, and then at Pleasant Valley.

M. B. S.

### Book Reviews

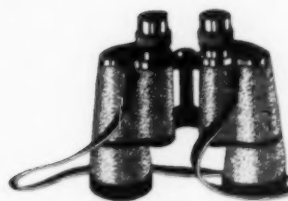
**STRAY FEATHERS FROM A BIRD MAN'S DESK.** By Austin L. Rand. Doubleday and Company, Inc., Garden City, New York. 1955. 224 pages. \$3.75.

The author, who is curator of birds at the Chicago Natural History Museum, has gleaned from his notes gathered over years of experience and world-wide travel brief items about the lives of birds too interesting to remain buried in his files. From this material has been published what Mr. Rand pleases to call "A Conversation Piece" or a "Well-filled Whatnot." Sixty chapters illustrate facets of bird behavior, many of them unusual and all of them interesting for the bird student or the layman. The headings of the chapters are

intriguing enough to lead one rapidly through the book. "Maladaptations in Birds," "The Snowy Owl as a Trade Index," "Symbiosis — Animals Living in Mixed Households" (telling of Burrowing Owls, Prairie Dogs, and Rattlesnakes), "Kingfishers on the Telephone," "How Birds Use Cows as Hunting Dogs," "Bird Guides to Honey," and "Survival of the Unfit." The chapters are short enough to make the book a good one to pick up for brief snatches of reading, or to be used at bedtime, and it is a perfect gift for an indisposed friend who does not care to concentrate on too long or too involved reading. This is a real addition to a library of ornithological material and should be a best seller in its class.

C. RUSSELL MASON





## MEMBERSHIP NEWS



### A Summer Suggestion

Unlike many educational institutions and conservation organizations, the Massachusetts Audubon Society continues an active program during the summer months. In fact, throughout the Workshop and camping periods increased staff is required. Naturally, most of these activities center at our wildlife sanctuaries, and they are indeed a demonstration of "Conservation in Action." But the sanctuaries are also becoming increasingly a mecca for summer visitors from near and far. If you have friends or out-of-town guests and wish to offer them novel entertainment, we suggest that you plan a trip to one or more of our Audubon sanctuaries this summer and explore the possibilities.

We welcome the following new members and are gratified to list the growing number of older members who are increasing their support of the work.

#### Life Member

\*Dunning, John S., Granby, Conn.

#### Contributing Members

- \*\*Anderson, A. H., E. Walpole
- Beals, Philip C., Southboro
- \*\*Emerson, Alex M., Acton Ctr.
- \*\*Hopkins, John B., Wellesley Hills
- \*\*Hunt, Dr. R. S., Auburndale
- Nichols, Harold F., Concord
- Sanger, Edward J., II, Boston
- \*\*Williams, Mrs. Staunton,  
Farmington, Conn.

#### Supporting Members

- \*Baldwin, Herbert N., Boston
- \*Barrow, Mrs. Ralph, W. Barnstable
- Berig, Leon, Mattapan
- \*Hale, Miss Mary D., Brookline
- \*Hathaway, Mrs. Ethel N., Duxbury
- Hess, Mrs. John L., Osterville
- Keeler, Mrs. L. M., Whitinsville
- Klingeman, Mrs. Ralph A.,  
S. Weymouth
- \*Leonard, Emery, Cohasset
- \*Lewis, Mrs. Philip, Swampscott
- MacAaron, Mrs. Kenneth, Needham
- \*McPherson, Mrs. Charles C.,  
Southampton
- Miller, Mrs. Marguerite, N. Reading
- Nickerson, Mrs. William G.,  
New Boston, N. H.
- Richmond, Carleton R., Milton
- Richmond, Mrs. Carleton R., Milton
- Seaver, Henry L., Lexington
- Tracy, Mrs. Robert J., Pittsfield
- \*Waltham Better Gardens Club, Waltham
- Ward, Miss Mary L., Newton Highlands
- \*Wellman, Miss Harriet V., Annisquam

Whittlesey, Stephen N., Sudbury

Yetter, Mrs. John J., Marblehead

#### Active Members

- Adams, Mrs. Henry S., Newton Ctr.
- Bardwell, Mrs. Lena K., Florence
- Barnes, Mrs. Benjamin A., Belmont
- Barton, Roger, Caldwell, N. J.
- Basney, Charles S., Belmont
- Bennett, Charles R., Andover
- Bolton, Mrs. Harold L., Chestnut Hill
- Booth, Mrs. Andrew, Amherst
- Brown, Miss Maud E., Boston
- Brugger, Miss Bertha, Dorchester
- Buchan, Mrs. John C., N. Dartmouth
- Budlong, Mrs. Harold, Sunmount, N. Y.
- Cambridge School of Weston, Weston
- Capen, Mrs. Chester M., Norwood
- Chase, Hubert W., Lynnfield
- Cole, John N., Andover
- Cooke, Miss Grace E., Boston
- Copeland, Miss Olive, S. Hadley
- Cruickshank, Mrs. George, Malden
- DePloey, Francis, Reading
- Dewing, James T., Belmont
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 Wing, Mrs. S. W., Lowell  
 Wright, Miss Carolyn, Northampton

### Book Reviews

**FREAKS AND MARVELS OF INSECT LIFE.** By Harold Bastin. With line drawings, 20 pages of photographs, and a colored frontispiece. A. A. Wyn, Inc., New York. 1954. 248 pages. \$3.75.

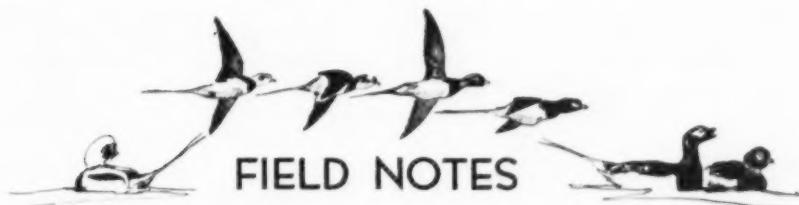
Insects are nothing but "bugs" to the uninformed or indifferent, a kind of life to be ignored except when a mosquito bites us or a Japanese beetle eats our prize rose. To overcome this lack of interest on the part of most people, many authors and many books have stressed the variety of insects, their astronomical numbers, their unique manner of existence, their potentiality for destruction of the human race, and their amazing adaptations to their existence. In this volume we have another work written for the tyro in insect study. Many facts of rather common knowledge are presented as well as those less familiar to the average reader of popular works on entomology: thus we learn that some insects are viviparous, why "flies only bite when it is going to rain," how fireflies are used by native women in South America for ornaments, and many of the ways in

which insects are prepared and eaten in various parts of the world.

While presenting much information on insects in general and incidentally mentioning many of our North American species, it should be borne in mind that this work is intended primarily for British readers, since the emphasis is placed on the insects of England. Nevertheless, the work is of general interest, although the average American reader will find that many of the species described are unfamiliar to him. Of much value to the person who may wish to study further is a comprehensive ten-page glossary containing the scientific names of the insects which have been mentioned in the text only with their common names.

The purpose of the book as noted in the Foreword by Frederick Laing, formerly Principal Scientific Officer in Entomology of the British Museum, is well carried out: "Intended primarily for those anxious to obtain some knowledge of what is a fascinating study the book should serve also to refresh the memory of older and more advanced students of forgotten facts."

HARRY LEVI



BY RUTH P. EMERY

April was more depressing than damaging. The first 21 days were unusually dry, with a total rainfall of just over half an inch. Then a series of coastal storms developed offshore. Rain fell for nine consecutive days, totaling 3.53 inches for that period, more than the normal monthly total. On April 4, western Massachusetts, Connecticut, and Vermont had heavy snowfalls, some communities reporting them to be the worst of the year.

RED-THROATED LOONS were migrating throughout the month, reaching a peak on April 12, when 35 were counted on the Outer Cape. HOLBOELL'S GREBES were seen only at Manomet (6) and Squantum. The latter bird was in breeding plumage. HORNED GREBES in breeding plumage were reported in numbers throughout the month, 400 still present at Plum Island on April 30 (Burnett). GANNETS were noted in numbers on the Outer Cape (33) and off Nantucket (25). 35 DOUBLE-CRESTED CORMORANTS were noted in Wayland, where this species is rare.

Seven species of herons included 4 AMERICAN EGRETS on nests in South Hanson Swamp, 1 SNOWY EGRET at Tiverton, R. I., an adult LITTLE BLUE HERON at Plymouth, and one at Glastonbury, Connecticut. A GREEN HERON was seen at Plum Island on April 23 (Stricklands and party). The maximum count on the CANADA GEESE at Plum Island was 700, April 17, but AMERICAN BRANT were reported in numbers from Duxbury (1000), Plymouth Beach (440), Outer Cape (700), and Horseneck Beach (450). SNOW GEESE were reported from Wellesley Hills (100+), Wayland (3 — where rare), Newburyport (300+), Burlington and Clarendon (150), Vermont, and Wethersfield (16), Conn. With the flock in Wethersfield there was one BLUE GOOSE.

An adult GOLDEN EAGLE was seen in the Sudbury Valley, April 15 (F. Elkins and N. Claflin). OSPREYS were nesting in the Westport-Acoaxet area at the first of the month, and migrants were noted throughout the month.

The first SORA RAILS were heard calling at Lynnfield, April 24, and a CLAPPER RAIL was reported from Eastham, April 12. A FLORIDA GALINULE was seen in Burlington, Vermont, April 12 and 24, by several observers.

Seventeen species of shore birds were recorded. A count of 25 PIPING PLOVERS was made at Monomoy, April 9. The first UPLAND PLOVER was reported, April 16. WILLETS were seen at four places; good counts of PURPLE SANDPIPERS at Nahant and Squantum at the end of the month; PECTORAL SANDPIPERS at Plum Island and Sudbury Valley; RED-BACKED SANDPIPERS were reported in numbers from several places, a maximum count of 1000 at Monomoy, April 12; one DOWITCHER was seen at Plum Island, April 24, and 50 SEMIPALMATED SANDPIPERS were

noted at Glastonbury, Conn., April 23. A RED PHALAROPE was reported off Nantucket, April 21, and NORTHERN PHALAROPEs were seen in the harbor there in numbers, April 30. Both GLAUCOUS and ICELAND GULLS were reported; EUROPEAN BLACK-HEADED GULLS were seen at Newburyport (3), and Edgewood and Conimicut Point, R. I.; LAUGHING GULLS were reported, April 2 on, but in small numbers.

A CASPIAN TERN was seen at Sagamore, April 19 (Hill). Both RAZOR-BILLED AUK and BRUENNICH'S MURRE were reported. Eight species of owls were reported, and a SNOWY OWL at Plum Island was last noted, April 9. A SAW-WHET OWL was observed at Lynnfield, where it was feeding on a dead WOOD DUCK. WHIP-POOR-WILLS were first heard, April 25, and an early CHIMNEY SWIFT, April 17. A RUBY-THROATED HUMMING-BIRD was observed in Orleans, April 27. An adult RED-HEADED WOOD-PECKER was present at a feeder in Roxbury, April 26. The next day it stayed on the ground most of the time, and on April 28 Norman Harris, of the Boston Museum of Science, captured the bird and took it to the museum. YELLOW-BELLIED SAPSUCKERS were reported, April 3 on.

WOOD PEWEES were reported from Nantucket, April 20, and Glastonbury, Conn., April 30. All the swallows were noted except the CLIFF SWALLOW. ACADIAN CHICKADEES were reported from Newburyport and Wellesley through April 15. On April 30 a HOUSE WREN was seen in Glastonbury, Conn., and 8 WINTER WRENS were reported; LONG-BILLED MARSH WRENS were first reported, April 3 (Burlington, Vt.); ROBINS were building a nest in Newton Highlands on the 28th in a leafless red oak; CATBIRDS, April 22 on; BROWN THRASHERS, April 2 on; HERMIT THRUSH first reported, April 6, OLIVE-BACKED THRUSH, April 13 (Glastonbury, Conn.), and VEERY in W. Becket, April 24. Very few BLUEBIRDS were reported.

BLUE-GRAY GNATCATCHERS were seen at Little Compton, R. I., and Newburyport. GOLDEN-CROWNED KINGLETS were present throughout the month, and RUBY-CROWNED KINGLETS were first heard singing, April 8, the peak being April 19 when 45 were seen on Plum Island. AMERICAN PIPITS were reported from three places. Good-sized flocks of CEDAR WAX-WINGS were noted. Both SHRIKES were observed. BLUE-HEADED VIREOS first seen, April 20 (Rutland, Vt.). Nine species of warblers were reported, including a BLACK-THROATED GREEN in Rutland, Vermont, a BLACKBURNIAN WARBLER in Newburyport, April 23, many PINE and PALM WARBLERS; NORTHERN WATER-THRUSHES, April 24 on, and LOUISIANA WATER-THRUSHES, April 11 on. A BALTIMORE ORIOLE was seen in Reading, April 14. SCARLET TANAGERS reported from four places, April 14 on; a ROSE-BREASTED GROSBEAK in Burlington, Vt., April 3, and 4 others, April 14 on. The BLACK-HEADED GROSBEAK at Barnstable was reported seen through April 18, and the South Duxbury bird was seen off and on throughout the month. INDIGO BUNTINGS were first seen on April 14 in Martha's Vineyard, and later at Nantucket, Tenants Harbor, Maine, and Glastonbury, Conn. A DICKCISSEL was reported from Orleans, April 18. EVENING GROSBEAKS were reported in good numbers from 34 localities. The flight song of the PURPLE FINCH was heard, April 24. PINE GROSBEAKS were found in small numbers, and COMMON RED-POLLS were reported from Vermont only. PINE SISKINS were observed at many places, the largest flock (100) being at South Hanson Swamp. Both

RED and WHITE-WINGED CROSSBILLS were reported, and at Marblehead Neck a female RED CROSSBILL was seen carrying nesting material. The first TOWHEES were noted, April 5. Four IPSWICH SPARROWS were reported from Monomoy. A GRASSHOPPER SPARROW was observed at Easthampton, April 23, and VESPER SPARROWS were first reported, April 9; CHIPPING SPARROWS, April 6 on, and FIELD SPARROWS were reported throughout the month; the HARRIS'S SPARROW in Bradford was still present at the end of the month; WHITE-CROWNED SPARROWS were reported from Barnstable and Northampton (Arcadia); an adult GOLDEN-CROWNED SPARROW was seen by several people at Edgartown (Martha's Vineyard), April 21 and 24; FOX SPARROWS were not reported after April 9. LAPLAND LONGSPURS in breeding plumage were seen at Newburyport, April 3 (Argue), and SNOW BUNTINGS were last seen on the New Hampshire coast, April 3.

The weather was unsettled for the Audubon Field Trip to the Westport area on April 24, but a total of 57 species was made for the day. Two HARLEQUIN DUCKS were enjoyed by all, while 9 OSPREYS, 3 PIGEON HAWKS, RED-BACKED SANDPIPERS, and CAROLINA WRENS were among the highlights.

The "Voice of Audubon" has been busy announcing the spring migrants, the noontime Bird Walks in the Boston Public Garden, Audubon Week, and the TV program "DISCOVERY" on Channel 2, station WGBH.

### Among Our Contributors

WILLIAM H. and MARY B. DRURY, of Cambridge, tell of their experiences with the 1954 Bylot Island Expedition in this issue. Mrs. Drury, who received her B.A. in anthropology at Vassar, has been particularly interested in Eskimos. On the trip she was responsible for the nest checking, counting the young from day to day. She was also in charge of the kitchen, thus performing, as her husband said, "all the tough, routine jobs." Mr. Drury, Assistant Professor of Botany at Harvard, ornithologist, and accomplished artist, contributed the headings for the "Field Notes" page in the BULLETIN.

MARY STEVENS DAUPHINEE whose letter appears in "From Our Correspondence," is the daughter of a Nova Scotian sailmaker and wife of the owner of one of the last big block and tackle shops, situated in Lunenburg, which is one of the few remaining harbors sending sailing vessels to the Banks. Mrs. Dauphinee has taught herself bird identification. And in the thickets and spruces around her gardens sing the Lincoln's Sparrow, White-winged Crossbills, and Acadian Chickadees.

ELLIOTT B. CHURCH, of Newton, has been a director of the Massachusetts Audubon Society since 1926. A lawyer, he re-

ceived his A.B. and LL.B. from Harvard. Mr. Church has long been interested in field ornithology. With his lifelong friend, Arthur Cleveland Bent, he kept a count of the ospreys nesting in southern Massachusetts and Rhode Island. Horticulture is another of his hobbies.

MARY S. and BENJAMIN M. SHAUB operate the Shaub Ornithological Research Station at their home in Northampton. Mr. Church's daughter, Mrs. Shaub is a graduate of Simmons College as well as Smith, where she received her M.A. in geology. With her husband, of the Geology Department at Smith, Mrs. Shaub is the publisher of the *Evening Grosbeak Survey News*, which she originated and also edits. Both the Shaubs are active in the Northeastern Bird Banding Association.

AGNES S. J. POWERS (Mrs. Carroll P. Powers), of Robinhood, Maine, was born in the near-by coastal town of Georgetown. She has been the postmistress of Robinhood for thirty years, as well as pursuing her other interesting activities as school teacher, news correspondent, lay preacher, and the wife of a lobster fisherman. She has never "gone birding," because the birds come to her; for more than twenty years her feeding stations have been bringing them.

### New Staff Members



MRS. LASHLEY G. (ERNESTINE DOW) HARVEY, of Bellingham Place, Boston, joined the Audubon staff in April, to assist in membership and public relations work. Mrs. Harvey received her A.B. degree from William Jewell College, Liberty, Missouri, studied Spanish at the University of Kansas and music at Leland Stanford University and Kansas City Conservatory, and then was engaged in teaching piano. She has also done library work at the University of New Hampshire, Columbia University, and Babson Institute. Her hobbies are two-piano playing, interior decorating — especially the Early American period — and recently she has been interested in transforming a bleak city courtyard into a terrace garden. Mrs. Harvey has just returned from a year in Ankara, Turkey, where her husband, who is connected with the government de-

partment of Boston University, worked with the United Nations.

Also in April MISS AMALIE MEISEL became telephone receptionist for the Society and is living in Boston. Although born in this country, she was educated in Germany. She was graduated from Teachers College in Bavaria, where her studies included botany and zoology and where she also carried on musical group activities. At one time she was assistant director of a *kinderhort*, where children of working parents were cared for after school hours and during school vacations and which provided supervised home studies and games, teaching of music and various crafts, and nature walks through field and forest. Miss Meisel's hobbies are knitting and the collecting of Metropolitan Museum art miniatures. She has also been active in Red Cross work.





## Birds Round The World On Postage Stamps

### No. 4. Gannet

BY C. RUSSELL MASON



It was not until the spring of 1954 that the Gannet we know along the New England coast was recognized on a postage stamp, a fifteen-cent value issued by Canada. While gannets are found in other parts of the world, even to Australasia, the Gannet of the North Atlantic, *Sula bassana*, is the one pictured on the Canadian stamp. On this side of the Atlantic it breeds along the Canadian coast, chiefly on Bird Rock and Bonaventure Island in the Gulf of St. Lawrence, while on the other side its breeding range extends from Iceland and Norway to the British Isles. It winters from New Eng-

land to the Gulf of Mexico and from the waters about Britain to Senegal on the West African coast.

In 1935, the Cayman Islands issued two bicolored postage stamps showing another gannet species, *Sula sula*, known as the Booby Gannet, or Red-footed Booby. Also, about two years ago there appeared several triangular stamps purported to be issued by "Free Croatia," one showing a gannet in flight, but philatelists consider the issue spurious—nothing more than speculative labels.

Our adult Gannets are white birds with black wing tips, shaped almost like a cross in flight, with a wingspread of about six feet. The young in their first year are largely dark brown, gradually assuming the white plumage over a four-year period. Audubon recorded these fine birds on his expedition to Labrador in 1833, but they had been observed and listed by Cartier on his voyage to Canada in 1534. The tremendous numbers which seemed to Audubon from a distance to be covering the rocky promontories like snow were reduced through the years until only a remnant remained. However, Bird Rock and Bonaventure are now reservations of the Canadian government, and the birds are under strict protection. In North America the birds were killed for fish bait, while in Europe the young were used for human food. Bird Rock, which had 100,000 birds in 1860, was reduced to a few thousand before the close of the century. Bonaventure fared better and still has thousands of Gannets nesting there.

Attention is called to Gannets along our shores as these large birds circle for altitude, then dive from a height of thirty to a hundred feet into the sea, splashing the water sometimes as high as fifteen feet. With the help of wings and feet, they may go seventy or more feet below the surface in their search for the many kinds of fish on which they live. They close their wings just before hitting the surface and may remain submerged for several seconds.

The gannet nests are only three feet apart, but the small space occupied is jealously guarded. The nests may be placed on the top of the rocky islands or on the shelves of the cliffs, and each contains only one bluish-white egg. Since the parent birds have no brood patch, the webs of both feet are used to cover the egg. During the rearing period the young are fed so heartily by the adults that they finally may exceed the parents in size. They then diet for ten days before launching from the cliff into the sea, for with the excess weight

they might fail to clear the rocks at the base of the cliff. For two or three weeks they remain on the water, subsisting on subcutaneous fat, and are therefore nearly four months old before they make their second flight. A strong elastic cushion of air cells under the skin of the breast eases the shock of impact with the sea, and they remain there continuously except when coming to land for the breeding season.

The courtship of the Gannets is well worth observing. As recorded by Charles W. Townsend, the two birds face each other, with wings slightly raised and tail elevated and spread, then they bow and wave their bills as if engaged in a fencing bout. After this, each bird draws its bill and head both sides of the other's snowy breast, repeating again and again for several minutes, following which each bird may preen its own or the other's feathered splendor.

### From Our Correspondence

#### Overture to Spring

"As I opened my front door early this morning I was greeted with the sounds of a full orchestra playing an overture to spring. Hardly able to believe my eyes I saw that the huge cut-leaf maple tree adjacent to the barn was alive with birds. A flock of Evening Grosbeaks, a half a dozen Purple Grackles, Song Sparrows, a Downy Woodpecker, Chickadees, Starlings, and a Nuthatch; and then looking further afield I spotted four Robins happily running along the ground under the old apple tree below the stone wall.

"The maple tree has been one of the principal feeding stations all winter long and it was almost as though our winter visitors had passed the word along to our spring visitors, 'Stop here for good eats!!'

"Perhaps this was not an unusual experience but I personally have never seen so many varieties of feathered friends in one place at one time."

Wilmot Flat, N. H.,

March 30

Elizabeth B. Cave

#### Indigo Bunting Turns Up In Nova Scotia

"One by one I am seeing the birds I dreamed of seeing. Late last fall a Blackburnian Warbler spent several days outside the living room window. Then one day while working in the garden I was overjoyed to see a large flock of Evening Grosbeaks drop into a near-by tree. And a week ago a bird I never expected to see accepted my offering of oats and has been here ever since.

"It was raining, and I was preparing supper when my daughter Rosalie, glancing out of the window, said, 'Out here's a new bird.' Having been tricked before by those very words, I continued setting

the table. She glanced out again. 'Or is it a bird?' she asked. 'It looks like a flower.' This time I looked, too, and at first I did think it was a flower. Speechless, I stood there gasping. For sitting on the ground was the most beautiful blue bird I had ever imagined. A male Indigo Bunting! I called the rest of the family and we all stood like statues, scarcely daring to breathe lest the lovely thing vanish.

"Since then we look for 'Blue Boy' first of all every morning, and he is always there. He sits and shells oats by the hour. And I sit and enjoy him, fearing that when he leaves, as he surely will, we might well never see him again."

Mary Stevens Dauphinee

Second Peninsula,

Lunenburg, Nova Scotia

May 9, 1955

#### Hummingbirds at Lily Pond

"For seven years in succession the Hummers have arrived at Lily Pond on May 7. Last year they arrived on May 10, but this year they came again on May 7. One arrived on Saturday, the 7th, two on Sunday, the 8th — all females. The male did not arrive with the three females, but arrived on May 12. Usually the male precedes the females.

"In the dining room we have a long French window and a row of several highly colored geraniums on a bench near the window. Both male and female Hummers hovered before the glass windowpanes trying to get to the blossoms. It was very amusing to see all the birds apparently disappointed to find that there was glass between them and the blossoms."

Lily Pond,

Cohasset, Mass.

Laurence B. Fletcher



## BOOK REVIEWS

**AN INTRODUCTION TO ORNITHOLOGY.** By George J. Wallace. The Macmillan Company, New York. 1955. Illustrated with photographs and line drawings. 443 pages. \$8.00.

Most people's interest in birds starts through observing birds in the field, primarily in learning to tell one from another, and then as they become more expert they sooner or later buy a field guide and a binocular and join that great and active band, the bird watchers. As the bird watcher develops skill in field identification, many questions begin to come to mind: How are birds related to each other? Why do they behave the way they do? and many others — questions the answers to which are to be found in the study of ornithology. The present volume is a comprehensive and concise work to start the student of birds on the road to becoming an ornithologist. Written primarily as a college text, it will, nevertheless, be of great interest to the amateur student of birds, in or out of college. In the academic world it fills a very real need, for although ornithology has been taught for many years in a few colleges, and a few years in a growing number of schools, there has not been until now a text of the scope of this book.

Dr. Wallace's volume is well and interestingly written. There are sixteen chapters covering a wide variety of subjects, such as "The Sense Organs and Behavior of Birds," "The Migration of Birds," "The Distribution of Birds," "Conservation and Management," "Food Habits and Economic Relations," and "Ornithological Methods." About a fourth of the book is devoted to "The Annual Cycle," which commences with the spring arrival of birds on their breeding grounds and carries through the whole gamut of activities connected with reproduction to the fall departure for the southlands. Important terms that are likely to be new to the reader are printed in heavy type and defined or explained parenthetically as encountered.

One might wish that some parts of this book had been written at greater length and thereby made more complete, but the book, as its title states, is, after all, only an introduction to ornithology, and the serious student will find the carefully selected bibliography an invaluable aid to continued study. This compact volume is heartily recommended as a worthy addition to your library of bird books.

ALVAH W. SANBORN

**BEYOND ADVENTURE.** By Roy Chapman Andrews. Duell, Sloan & Pearce, New York; Little, Brown & Co., Boston-Toronto. 1954. 244 pages. \$3.75.

"These streamlined biographies," as Dr. Andrews calls them, were first published in *True*, the *Man's Magazine*, and are reprinted in the present form as the result of numerous requests. Eighty-seven pages are devoted to a sketch of Robert E. Peary, the discoverer of the North Pole; fifty-five pages tell of Carl Akeley, "Akeley of Africa," who revolutionized the art of taxidermy and whose greatest monument is the magnificent Akeley African Hall at the American Museum of Natural History in New York. Another hundred pages tell Dr. Andrews's own story. Much of the latter material has already appeared in another autobiographical book by Dr. Andrews, *Under a Lucky Star*, which was reviewed in the *Bulletin* for March, 1944.

The three men who are grouped together in this volume were alike in certain characteristics, though they worked under greatly differing conditions and with very different results. Each was driven, from boyhood on, by a well-defined ambition to accomplish a certain objective, and each was driven onward relentlessly by that urge. In spite of great difficulties each achieved his objective at last, and their fame is assured. Included in the book is much interesting material about each of the three famous personages.

JOHN B. MAY

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### Book Reviews cont.

**BIG DAM FOOLISHNESS:** The Problem of Modern Flood Control and Water Storage. By Elmer T. Peterson. Devin-Adair Company, New York. 1954. 224 pages. \$3.50.

Few will dispute the fact that water is one of the most critical problems now confronting our country. Either we have floods with inestimable property damage or droughts with the same results. Cities everywhere are alarmed by the declining ground water tables, and industries are limited in their choice of location because of inadequate supplies of usable water. Why? The total quantity of water has not diminished. True, increasing demands are made upon existing supplies by our expanding needs, but the shortage is not in proportion to the rise in demand. The reason is simply that man has thwarted one of nature's basic laws, the hydrologic cycle.

In *Big Dam Foolishness* Elmer Peterson has translated the jargon of the so-called experts on water problems into readable and intelligible terms for the layman. The principles he expounds are purely common sense, but the supporting statistics from reports of the Army Engineers, Soil Conservation Service, and others are not only surprising, but often downright terrifying in the light of what Congress is now passing. The result is a truly devastating indictment of the big dam project.

The cure-all for our water problems, according to the Corps of Army Engineers, the Bureau of Reclamation, and the pork barrel politicians, is a series of immense dams on the stems of our major rivers, known as the Pick-Sloan Plan. The primary claim of these big dam advocates is multiple purpose use, that is, flood control, power production, and irrigation. The absurdity of such a claim is obvious, because a reservoir must be empty in order to impound flood waters and full for power production and irrigation. In view of the fact that USDA engineers have found that 75-85 per cent of agricultural flood damage occurs on the tributary watershed, one has to question the advisability of such a program. This doubt is augmented by the siltation problem. The Army Engineers themselves estimate the life of the dams to be about fifty years, after which the reservoirs will be deltas of useless sand washed from the watersheds and covering much of our most valuable farmlands and towns which the reservoir originally inundated. Perhaps the author's most startling statement is that big dams actually result in floods.

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There is also the problem of water storage. Water in reservoirs behind big dams is subject to evaporation and pollution, and silt often makes it undesirable for recreational use. The quantity is limited at best. Because of poor land management, much of our annual rainfall is allowed to run off the land, causing erosion and floods (about one cubic mile of soil goes past New Orleans annually) instead of being held on the land where it will recharge lowered water tables and supply a steady flow for all purposes.

Other arguments used against big dams include socialization of power and unfair cost to the taxpayer.

In place of the big dams which he so strongly indicts, the author supports the little-publicized Soil Conservation Service, which works on the theory of flood prevention rather than flood control. As an example of this, the Washita plan is cited, whereby erosion is controlled by proper land use and management. Many small impounding reservoirs are constructed in gullies and other relatively useless land. Thus the water is held where it falls, and flood, irrigation, and siltation problems are solved. Instead of spending the estimated fifty-seven billion dollars for the Pick-Sloan Plan, a figure which should be at least doubled in the light of past experience, how infinitely better it would be to spend the same amount on the SCS plan, which would cover a far greater area and has proved itself more effective.

Much of this book is alarming and discouraging, particularly in view of the influence the big dam lobbies have upon Congress. But the author is an optimist and, in spite of the fact that we have already lost one third of our topsoil and have caused such havoc on our rivers that a serious water shortage is imminent, he feels that the public will shortly become aware of the true situation and take proper action. In the last chapter he paints a rosy picture of what our water situation could be fifty years hence.

This book is truly an eye-opener for those who are unfamiliar with our big dam controversy and a marvel of clarification for those who have attempted to interpret the confusing literature published by the agencies involved. It is something every citizen should read, unless he is willing that our country go the way of Babylonia, Carthage, and others which died of thirst from programs so similar to the one being fought here.

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## Book Reviews

**THE PASSENGER PIGEON.** By A. W. Schorger. The University of Wisconsin Press. Madison, Wisconsin. 1955. 424 pages. \$7.50.

The Passenger Pigeon, "the most impressive species of bird man has known," with its beautiful plumage and "air of uncommon elegance," and its grace and speed in flying which gave it the name of "Blue Meteor," has been the subject of a voluminous literature since its extinction at the end of the last century. During the period of its abundance, when from three to five billion of these birds roamed the United States and southern Canada, no competent ornithologist studied its life history, and therefore facts are fewer than fables. Professor Schorger endeavors to remedy this regrettable omission by a compilation of all that is known about the species. He spent the spare time of a score of years in interviewing men who had known the "Wild Pigeons" in life, on correspondence, and a search of literature which yielded a bibliography of some 2,200 titles, in addition to newspaper articles which add 10,000 more items to the total. The resulting book is so complete that to the reviewer it is indeed the last word on the subject.

Three hundred and fifty years after the white man's settlements appeared, the Passenger Pigeon had disappeared, almost before the threat to its existence was apparent. The reasons for this seemingly swift disappearance are variously given, but Dr. Schorger concludes that man was the agent responsible for its extinction. He says the key to the problem was "mass association." The Pigeon, like the Buffalo, was a species whose existence seems to have depended upon association in large numbers, and once separated and scattered into small flocks and pairs its doom was sealed. This mass association permitted mass killing by market gunners and netters, and because of their continued persecution of the birds on nesting grounds failure to rear young was routine in the last years of the century. The bird's biological defects, the final one "the total inability of this pigeon to learn anything new . . . (to) change its habits to meet new and unfavorable conditions" (which Ludlow Griscom in an article entitled "The Passing of the Passenger Pigeon" considered to be the primary cause of the birds' extinction), is not considered an important factor by Schorger. He says, "The conclusion is inescapable that the Passenger Pigeon became extinct through such constant perse-

cution that it was unable to raise sufficient young to perpetuate the race. Trapping and shooting were devastating." He quotes the inscription on the monument to the last Wisconsin Passenger Pigeon, shot in 1899: "This species became extinct through the avarice and thoughtlessness of man," and he calls it a most poignant example of what will happen when man is heedless of his heritage.

The reviewer found this book highly interesting and informative, clearing up many obscure or contradictory statements found in other works consulted. Finally, the bibliography alone is an essential part of any comprehensive natural history library. Dr. Schorger, who is professor of wildlife management at the University of Wisconsin, has done a scholarly and well-nigh complete piece of research upon a bird which, in the days of its abundance, affected the commerce, the diet, the recreation, and even the vocabulary of the citizens of the United States, and whose disappearance is one of the most shameful tales of the "pre-conservation" age.

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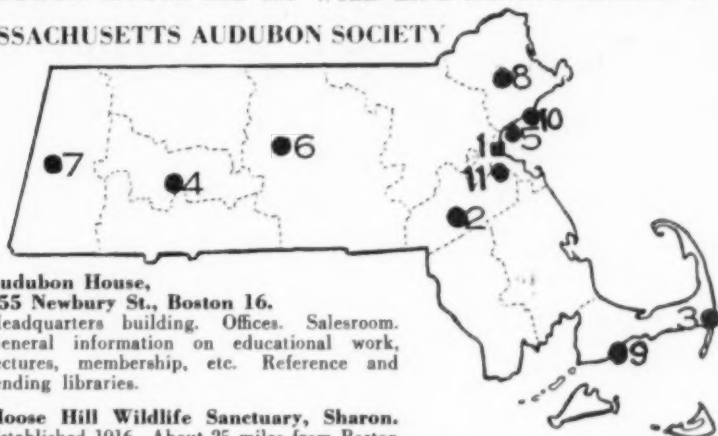
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